Econ Essentials

EDUCATOR COMPANION GUIDE

Foundations of Finance

Introduction

Welcome to *Foundations of Finance*, an interactive online learning module that will introduce students to interest rates and their relation to financial health. Students will learn about personal financial growth in a real-world context, such as applying for student loans, buying a car, and saving.

While seat time for students will vary, the interactive is designed to take 30–35 minutes for students to complete.

This Educator Guide includes background information about the topics covered in the module and guidance on how to use the tools and assessments in a one-to-one or one-to-many environment.

Overview

This module, part of the Econ Essentials program, focuses on introductory topics in finance with a focus on interest rates. It is designed to be used as a self-paced module with interactive features that enhance the experience for visual, auditory, and kinesthetic learners. The content is divided into three topics:

- **Interest Rates Overview:** Introduction to interest rates, how interest rates are determined, consumer loans, and consumer borrowing
- **Interest Rates in Your Life:** Exploration of changing interest rates and benefits, opportunity costs, and risks associated with interest rates
- **Interest Rates in the Real World:** Application of interest rates concepts in real-word scenarios

Students can view the module using a web browser on a workstation, laptop, or tablet. Content is presented through screens that students will navigate. Interactive elements and graphics are included throughout. The text, videos, and graphics are accompanied by audio narration that reinforces the content and supports learners at different reading levels.

The last section is a simulation in which students apply what they have learned about interest rates to make decisions in their lives.

At the end of this interactive, students will complete a summative assessment that includes a series of questions on the topics covered in the module.

Instant Expert

In the digital interactive, students will participate in their own "Game of Life." To play, students will have to plan and make decisions based on key milestones in their "game." Real-life moments, such as post-high school planning and decision-making points—going to college, buying a car, starting a new job, and saving—are used as examples of how interest rates work and affect students' lives.

This digital interactive will show students what interest rates are, how interest rates are determined, and how interest rates affect their financial health at each point in their life.

INTRODUCTION AND SCENARIO

In the setup, students read a scenario that explains the following: *They have been accepted into their first-choice college, but how will they pay for it?* The introduction challenges students to consider how interest rates might have an impact on the decisions they make related to each of these important life events.

TOPIC 1: INTEREST RATES OVERVIEW

Students learn the definition of interest rates, key terms, and how interest rates are determined. They learn the types of interest rates and are provided examples of consumer borrowing and lending.

Students can *pay* interest when they are the borrower (student loan, credit card, car loan) and can *earn* interest rates as the lender in savings, securities, and bonds. Interest rates exist to mitigate the risk of lending.

The following key terms are defined and explained:

- Lender
- Borrower
- Principal
- Term
- Interest
- Risk

Understanding the type of interest rate being offered in a loan is important:

- Fixed Interest Rate
- Variable Interest Rate

Interest rates are applied in two ways:

- Simple or Nominal
- Compound

An interactive example illustrates these concepts.

Next, consumer loans are described, including student loans, mortgages, car loans, personal loans, and other types of loans. Consumer loan components and amortization are defined.

Federal government student loans are announced and include Stafford, Perkins, and Parent (PLUS) loans. Students are able to compare the various student loans based on the 2015–2016 information provided by the U.S. Department of Education. Students will evaluate student loans in a scenario.

Students are provided an overview of auto loans. Students evaluate a loan offer and explore how down payments affect their choice.

Credit cards are presented, and students learn about grace periods and interest charges. As consumers, students must be aware of annual, transaction, and late fees that are associated with credit cards.

Students are then introduced to examples of consumer lending and how to earn interest by investing and lending money. The examples include savings accounts and money market accounts, Treasury bonds, Treasury bills, and Treasury notes.

Lastly, students take a deeper look into variable rates. The variable rates are set by a base interest rate, or *index*. An index is used as a benchmark, or standard, that lending institutions (like banks) will use to set a rate for borrowing or lending. Students view a video presentation about the Ins and Outs of Interest Rates.

TOPIC 2: INTEREST RATES

The second topic introduces students to the decision making process of whether the student should borrow or lend. In order to move forward on the discussion of the benefits, opportunity costs, and risks, the students need to understand how interest rates change.

The role of the Federal Reserve (Fed) in keeping the U.S. economy strong is briefly discussed. The discount rate and federal funds rate are defined and students view a graph showing the change in the federal funds rate from the 1950s to 2016.

Students learn about why interest rates increase and decrease, and what happens when rates are higher or lower. They will discover what the benefits and risks are associated with lower or higher interest rates among different groups—individual savers, companies, the government—by exploring an interactive infographic.

After exploring the infographic, students then make the connection between benefits and risks on their own loans or investments. They review the benefits and risks of the following items:

- Government student loans
- Private bank student loan
- Car loan
- Credit card
- Savings account
- Investment accounts

In-depth information on opportunity costs is presented using Treasury bonds as an example. Lastly, students complete a checkpoint that tests their knowledge on the opportunity costs, risks, and benefits of interest rates based on example scenarios.

TOPIC 3: INTEREST RATES IN THE REAL WORLD

In the final section, students apply what they have learned throughout the lesson about interest rates. Building on the original scenario, they select their loan for freshman year. Next, they select their car loan and personal finance savings. Students will receive immediate feedback on how their decision impacts total interest rates. At the end of the section, students are provided an overview of their financial choices and how much interest they will be paying. Students have an opportunity to repeat this section and change their choices.

Foundations of Finance

Objectives

STUDENTS WILL LEARN:

- The basics of interest rates, including how they are determined and why they change
- Situations in which they pay or receive interest
- The opportunities and risks associated with interest rates
- The impact of interest rates on economic growth
- How personal finances are affected by interest rates

MATERIALS

To help students navigate the interactive, you will need:

- A computer or other device with internet access and a web browser
- A projection device to display the web pages

PROCEDURE

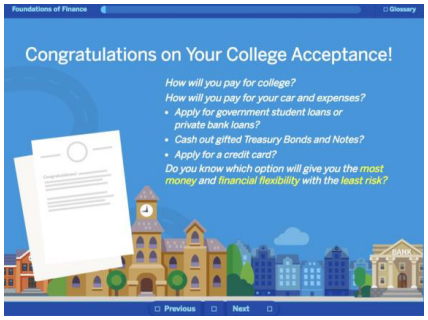
This module is designed to be used by individual students in a self-paced setting or, alternatively, by a group of students in a one-to-many classroom environment. If using the module as a whole group presentation in a classroom environment, the instructor can use the navigation features of the module to present the content to students and to set the pace of the lesson. By eliciting group responses, the instructor can facilitate interaction between students about their experiences and ideas and initiate small group discussions.

Section 1: Setup

Estimated time to complete: 3–4 minutes

Section 1—Screen 1
In the first screen of the setup, students are introduced to the topics of the module: Foundations of Finance. Students learn the basics of interest rates, including how they are determined and why they change. The objectives for the module are presented.

Students examine the impact of interest rates on economic growth and how their own personal finances are affected by interest rates. Students also explore situations in which they will pay or receive interest and the opportunities and risks associated with those situations.



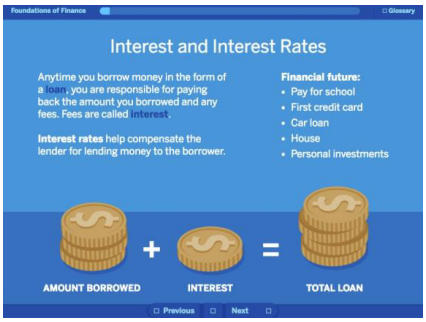
Section 1—Screen 2
In the second screen of the setup, students are given the module scenario. After working hard at school, they applied and were accepted to their first-choice college. However, even though they were awarded a partial scholarship, they still have to pay the remaining balance on their own. How will the student pay for school?

Students will need a car to travel to and from college and to get to their part-time job. They will also need help covering expenses. In the case of student loans, students can apply for government student loans, private bank loans, or both.

Another option is the Treasury bonds the student's parents and grandparents gifted them when they were younger. They can cash out some of these to help pay for school or a car.

To help with additional expenses, students could choose to open up a credit card.

Students will be asked, *"Do you know which option will give you the most money and financial flexibility with the least risk?"*



Section 1—Screen 3
Students are introduced to interest and interest rates. Anytime someone borrows money in the form of a **loan**, that person is responsible for paying back not only the amount they borrowed, but also the fee the lender charges for borrowing that money. There are also situations where someone may loan the money to a bank or a government, and that person will earn a fee for their loan.

These fees are called **interest** and are determined by **interest rates** that help compensate the lender for lending money to the borrower.

Interest rates will play a role in the students' financial future and will become a large part of their overall financial health—from how they will pay for school, to their first credit card, car loan, house, and personal investments.

Section 1—Screen 4 & 5
The next two screens demonstrate how students will pay and earn interest and introduce the next section.

Students will *pay* interest when they are the borrower—student loan, credit card, or car loan.

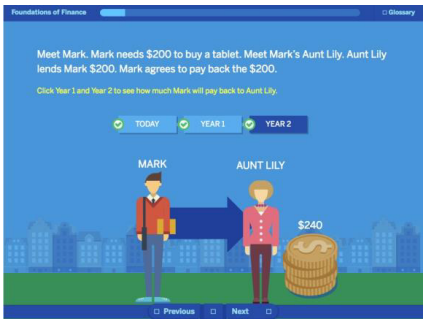
Students will earn interest when they are the lender—in savings, securities, and bonds.

In the next section, students look into the concepts behind interest rates and see examples of the different ways interest rates are used.

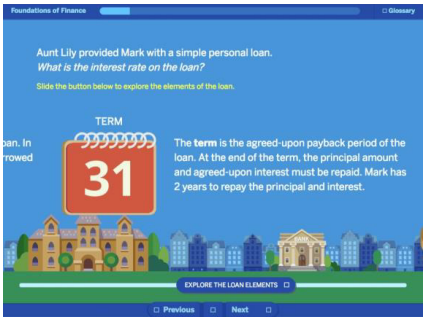
Confidence Rating 1
On this screen, students are asked how much they think they know about interest rates. They can choose **nothing, just a little, a fair amount**, or **a lot**. They will repeat the confidence rating at the end of the module to see how they've progressed.

Section 2: Interest Rates Overview

Estimated time to complete: 5–7 minutes



Aunt Lily lends Mark two hundred dollars and Mark agrees to pay back the two hundred dollars at the end of 2 years, plus an additional twenty dollars for each year. This screen is the third of the animation and shows the money going back to Aunt Lily at the end of Year 2.



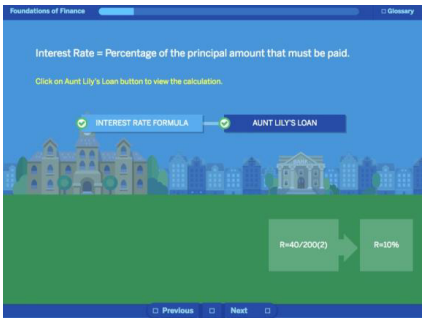
Section 2 – Screen 1
Section 2 focuses on the fundamental concepts of interest rates. It starts by providing a realistic and simple animated example. The scenario involves Mark, who wants a new tablet that costs $400. Mark earns an allowance from his parents and also babysits the neighbor's child but does not have all the money he needs. Mark's Aunt Lily is a loan officer at a bank. Mark has asked his aunt if he may borrow the money he needs to pay for the tablet.

Aunt Lily offers to lend him the rest of the money but wants to teach Mark about how a loan really works. So, she will loan Mark the money but will charge him interest. After all, it will take time for Mark to pay back the money, and worse, what if he can't? That is the risk Aunt Lily takes by lending Mark the money.

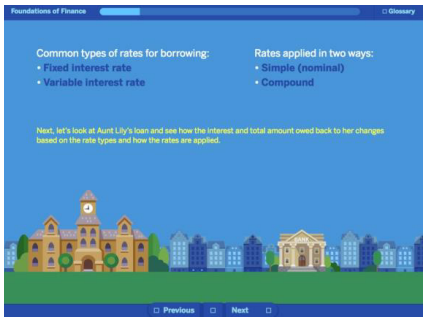
Section 2—Screen 2
On the next screen, students walk through the components of the loan by taking a closer look at the Mark and Aunt Lily example. Students scroll through the different loan elements:

- **Lender:** A person or organization (like a bank) that has money that can be lent out to a person or company that needs money. The lender anticipates the money being paid back.
- **Borrower:** The person or organization that needs money. The borrower initiates the loan.
- **Principal:** The original amount of the loan.
- **Term:** The agreed-upon payback period of the loan. At the end of the term, the principal amount and agreed-upon interest must be repaid.

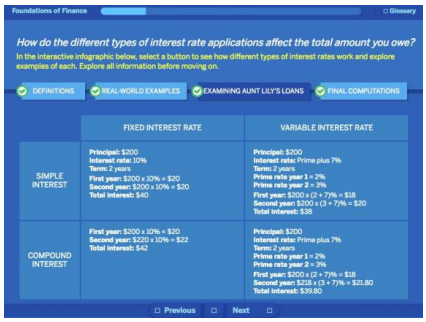
- **Interest:** The fee that the lender charges the borrower for the loan. It is determined by an interest rate, which is expressed as a percentage of the principal.
- **Risks:** Uncertainty about future outcomes. It is because of risk that interest is applied; it provides an incentive to the lender to lend out the money instead of keeping it.



Section 2—Screen 3
Students learn that the **interest rate** is the percentage of the principal amount that must be paid to the lender as a fee for using another's money during the term of the loan. Students see how the interest rate Aunt Lily gave her nephew Mark was determined.



Section 2—Screen 4
Students are introduced to the difference between **fixed interest rate and variable interest rate**. Students are also introduced to how rates are applied: **simple** and **compound**.



Section 2—Screen 5

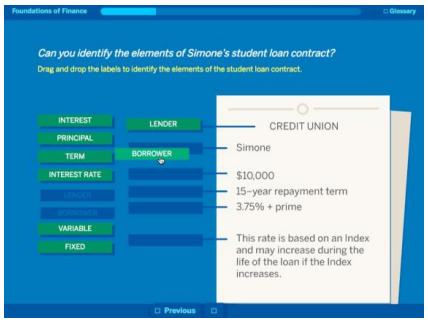
This interactive screen directs students to click on the different buttons to learn more about the different types of interest rates. Students see how the different interest rates affect the interest Mark owes his Aunt Lily. This was a small loan, so the differences are small—but these differences can add up to a huge number on car loans, student loans, or home loans.

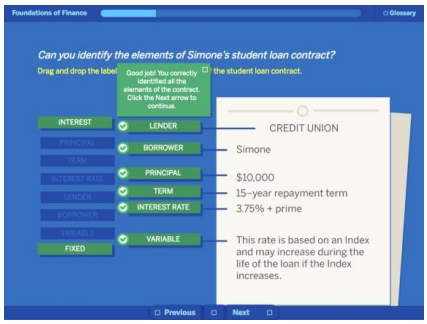
Types of Interest Rates Tab 1: Definitions		
	Fixed Interest Rate	**Variable Interest Rate**
Simple Interest	Simple interest is paid only on the loan's principal. Fixed interest rates stay the same for the entire time a loan is paid back. It is good for a borrower who wants to pay a set amount without worrying about unpredictable rate changes in the future.	Simple interest is paid only on the loan's principal. Variable interest rates can change during the term of the loan. This may raise or lower the monthly loan payments.
Compound Interest	Compound interest is paid on both the principal *and* on any additional interest that builds up during the loan's term. Fixed interest stays the same for the entire time a loan is paid back.	Compound interest is paid on both the principal *and* on any additional interest that builds up during the loan's term. Variable interest rates can change during the term of the loan.

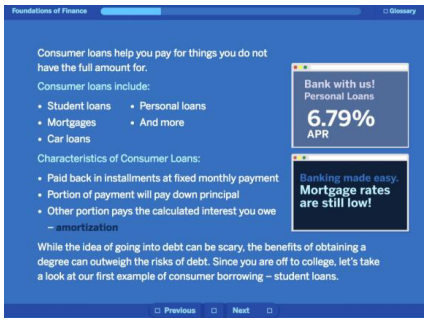
Types of Interest Rates Tab 2: Real-World Examples		
	Fixed Interest Rate	**Variable Interest Rate**
Simple Interest	A car loan or short-term loans (like Aunt Lily's loan to Mark) use simple or nominal interest rates. Loans using this type of interest rate can calculate payments monthly or at the end of the loan, depending on the agreement.	A home loan (mortgage) is often a variable-rate loan that uses simple interest, as long as the borrower makes all monthly payments.
Compound Interest	A savings account is an example of an investment using compound interest. Time is on your side—as time goes on, there is more principal in the account to build up interest.	A credit card account uses compound interest and often uses a variable interest rate.

Types of Interest Rates Tab 3: Examining Aunt Lily's Loans		
	Fixed Interest Rate	**Variable Interest Rate**
Simple Interest	**Principal:** $200 **Interest rate:** 10% **Term:** 2 years **First year:** $200 x 10% = $20 **Second year:** $200 x 10% = $20 **Total interest: $40**	**Principal:** $200 **Interest rate:** Prime plus 7% **Term:** 2 years **Prime rate year 1 =** 2% **Prime rate year 2 =** 3% **First year:** $200 x (2 + 7)% = $18 **Second year:** $200 x (3 + 7)% = $20 **Total interest: $38**
Compound Interest	**First year:** $200 x 10% = $20 **Second year:** $220 x 10% = $22 **Total interest: $42**	**Principal:** $200 **Interest rate:** Prime plus 7% **Term:** 2 years **Prime rate year 1 =** 2% **Prime rate year 2 =** 3% **First year:** $200 x (2 + 7)% = $18 **Second year:** $218 x (3 + 7)% = $21.80 **Total interest: $39.80**

Types of Interest Rates Tab 4: Final Computation		
	Fixed Interest Rate	**Variable Interest Rate**
Simple Interest	**Principal:** $200 **Interest: $40** **Total Paid:** $240	**Principal:** $200 **Interest: $38** **Total Paid:** $238
Compound Interest	**Principal:** $200 **Interest: $42** **Total Paid:** $242	**Principal:** $200 **Interest: $39.80** **Total Paid:** $239.80







Section 2—Screen 6
In this checkpoint, students drag and drop the components of a loan onto the loan contract.

The Scenario:
Mark's friend, Simone, just found out that her university is offering her a partial scholarship. However, Simone still does not have enough money to pay for the remaining balance for tuition and room and board.

Federal student loans will cover some of her costs, but Simone will still need to borrow an additional ten thousand dollars to cover the rest. She went to her local credit union, which provided her with the following information.

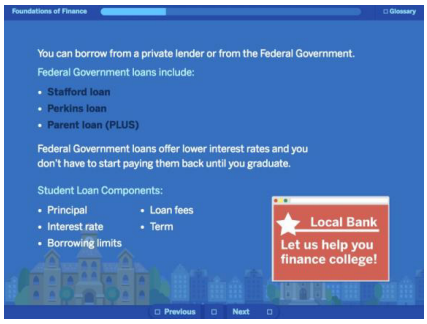
The answers to the checkpoint are above.

Section 2—Screen 7
Students are introduced to common consumer loans including the following:

- Student loans
- Mortgages
- Car loans
- Personal loans

Consumer loans are paid back in installments at a fixed monthly payment. A portion of the payment will pay down the principal and the other portion pays the calculated interest you owe. This is known as **amortization**.

While going into debt is scary, paying for college can be a good reason to go into debt. The benefits of obtaining a degree can outweigh the risks of debt.



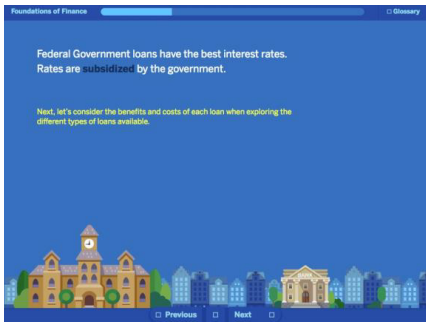
Section 2—Screen 8
When it comes to applying for a student loan, students will need to understand the type of interest rate they have, how much they can borrow, if there are any other fees associated with the loan, and the term of the loan.

Most likely, students will want to apply for the federal government loans first because of their lower interest rates and grace periods.

- **Stafford loan**
- **Perkins loan**
- **Parent loan (PLUS)**

Regardless of where students take out a loan, all student loans will have the following components: principal, interest rate, borrowing limits, loan fees, and term**.**

Sidebar:
Refer students to the https://studentaid.gov/to learn more information on the types of aid available from the government for student loans.



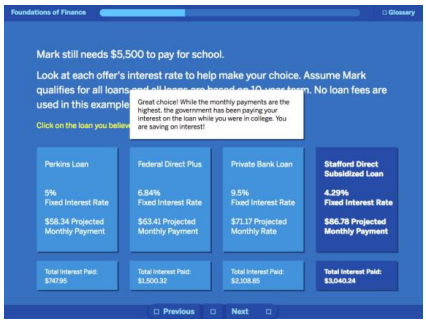
Section 2—Screen 9
The federal government loans will always offer the best interest rates because the rates are **subsidized** by the government.

In this interaction, students explore the different components of the various student loan options. The information they examine is listed in the table on the next page.

Sidebar:
Here is a good place to expand upon the concept of compounding interest. For unsubsidized loans, the compound rate is calculated. According to the Federal Student Aid website (An office of the U.S. Department of Education), "Your interest will accrue (accumulate) and be capitalized (that is, your interest will be added to the principal amount of your loan)."

Refer to this link to help your students understand the difference between subsidized and unsubsidized loans. https://studentaid.gov/understand-aid/types/loans/subsidized-unsubsidized

	Stafford Loans	Perkins Loans	Plus Loans	Private Loans
Lender The person or organization loaning the money	The U.S. Department of Education	**Your College** Not all institutions participate in this program. Check with your school's financial aid to learn more.	The U.S. Department of Education	Bank or Credit Union
Borrower The person or organization taking the money	You, the student	You, the student	**Your Parents**	You, and sometimes your parents (cosigners)
Term How many years you have to pay off the loan after graduation	10–25 years	10 years	10 years	Varies by lender
Loan Fees Fees for taking out the loan	1.068%	0%	4.272%	**Varies by Lender**, Historically significantly higher than federal loans
Limits How much you can borrow in total	**Direct Subsidized** $3,500–$5,500 per year **Direct Unsubsidized** $5,500–$20,500	$5,500 with total amount $27,500	Total cost of your attendance with all other financial aid subtracted	Whatever you qualify for based on your credit score
Interest Rate The percentage rate of the principal that the borrower must pay in interest.	**4.29% Fixed Direct Subsidized** You are not charged interest on the loan while in school. **Direct Unsubsidized** You are responsible for interest during all periods.	**5% Fixed** You will have to check with your school for more information on how interest is accrued.	**6.84% Fixed** Your parents must start paying interest during all periods they borrow.	**Fixed or Variable** Based on your credit score or your cosigner's credit score. Determined by the benchmark or index. Significantly higher than Government loans.



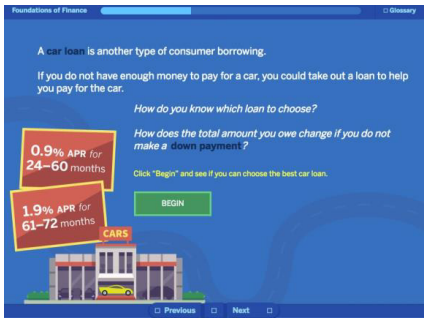
Section 2—Screen 10
In this interaction, students evaluate student loans and determine which student loan has the lowest interest paid for borrowing $5,500.

Students should look at each offer's interest rate, term, and projected monthly payments to help make their choice.

It should be noted that loan fees were not used in this example.

Feedback is listed in table below.

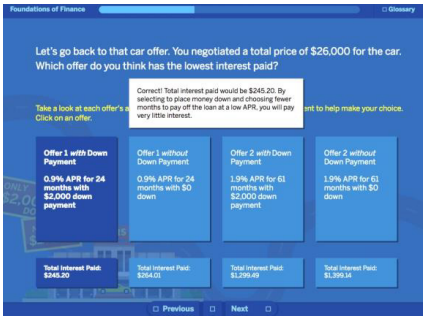
Text on Tile	Feedback when Selected
Stafford Direct Subsidized Loan 4.29% Fixed Interest Rate $86.78 Projected Monthly Payment Total Interest Paid: $747.95	Great choice! While the monthly payments are the highest, the government has been paying your interest on the loan while you were in college. You are saving on interest!
Perkins Loan 5% Fixed Interest Rate $58.34 Projected Monthly Payment Total Interest Paid: $1,500.32	Not a bad guess, and depending on the arrangement with your school, this could be the best option. While the interest rate is low, you could be responsible for starting to make interest or principal payments while still in school. Always check with the loan officer at your school about the latest Perkins information.
Federal Direct Plus 6.84% Fixed Interest Rate $63.41 Projected Monthly Payment Total Interest Paid: $2,108.85	Not your best option. If you qualify for either the Stafford Direct Unsubsidized or Subsidized, it will always be the better option. The Stafford loans will always have an interest rate lower than the Federal Direct Plus.
Private Bank Loan 9.5% Fixed Interest Rate $71.17 Projected Monthly Payment Total Interest Paid: $3,040.24	This is your last resort. Private bank loans will have a higher interest rate than all Federal loans. Even if the monthly payment appears to be lower, you are paying the most in interest.



Section 2—Screen 11
On this screen, students learn about another type of consumer borrowing—car loans.

A **car loan** is another type of consumer borrowing. If students do not have enough money to pay for a car, they may have to take out a loan from a private bank or the car dealership to help pay for the car. The dealership might even offer special deals.

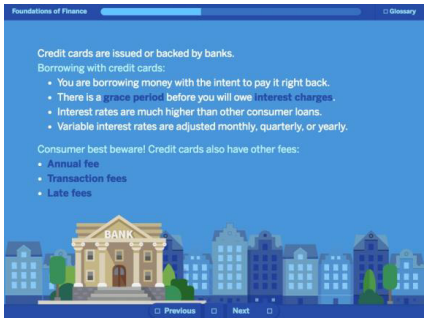
Students should start thinking about how to choose which loan, and how the total amount they owe changes if they do not have a down payment.



Section 2—Screen 12
In this evaluation, students will read the different types of offer and determine which loan has the lowest interest paid. Students take a look at each offer's annual percentage rate **(APR)**, term, and **down payment** to help them make their choice.

Feedback from the activity is listed in the table below.

Text on Tile	Feedback when Selected
Offer 1 with Down Payment 0.9% APR for 24 months with $2,000 down payment Total Interest Paid: $245.20	Correct! Total interest paid would be $245.20. By selecting to place money down and choosing fewer months to pay off the loan at a low APR, you will pay very little interest.
Offer 1 without Down Payment 0.9% APR for 24 months with $0 down Total Interest Paid: $264.01	Not a bad guess, but not the ultimate choice. By not putting anything down, you will pay only $18.81 more for Offer 1 than if you had put $2,000 down. You will pay a total of $264.01 in interest. Think about how else you could use that $2,000 if you did not use it as a down payment.
Offer 2 with Down Payment 1.9% APR for 61 months with $2,000 down payment Total Interest Paid: $1,299.49	Incorrect! While you might be interested in taking your time to pay back the loan, the benefit of extended payments means that your total interest paid is more significant. How much more? Even with the down payment, you will end up paying $1,299.49. That is $1,054.29 more than Offer 1!
Offer 2 without Down Payment 1.9% APR for 61 months with $0 down Total Interest Paid: $1,399.14	Incorrect! While you might not have any money to put down and you are interested in taking your time to pay back the loan, the benefit of extended payments means that your total interest paid is more significant. How much more? By taking Offer 2 without a down payment, you will pay about $1,000 more than you would if you took the same offer and did make a $2,000 down payment. Total interest paid will be $1,399.14.

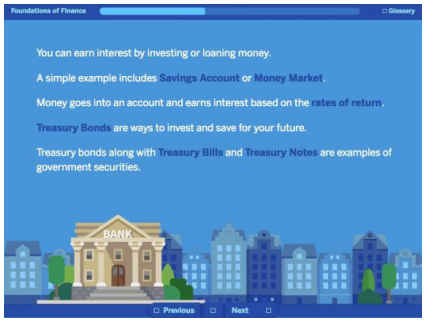


Section 2—Screen 13
Because there will ultimately come a time when students will decide whether or not they need or want a credit card, credit cards are introduced as another example of consumer borrowing.

The basics of a credit card are explained to the students. When someone uses a credit card, they are borrowing money with the intent to pay it right back, usually by the end of the month. There is a **grace period**, but then the borrower is required to pay back the borrowed amount or they will owe **interest charges**.
The interest rates on credit cards are typically much higher than other rates one will have as a consumer.

The variable interest rates can be adjusted monthly, quarterly, or yearly.

Also, consumers beware: Credit cards also have other costs, such as an **annual fee, transaction fees,** and **late fees**.



Section 2—Screen 14
On this screen, students are introduced to examples of consumer lending, which include the following:

- **Savings accounts**
- **Money Market accounts**
- **Treasury bills**
- **Treasury bonds**
- **Treasury notes**

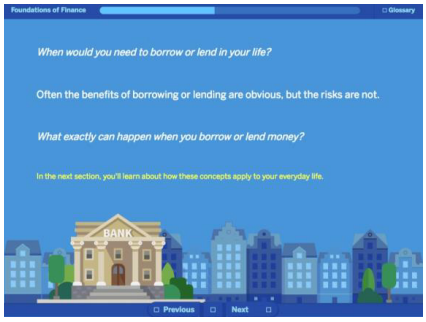
Sidebar:
As the instructor, here is a great opportunity to introduce the difference between APR and APY (Annual Percentage Yield) and compounding. Accounts can compound annually, quarterly, or monthly. Discuss with the students how annual interest can be paid annually, quarterly (once every three months), or monthly. This is known as the *compounding period*. When students are deciding on investment opportunities at banks, they will find that most banks will advertise APY, usually at a higher rate than APR; people would be interested in the higher rates since the account earns money.

Section 2—Screen 15
Variable rates are set by a base interest rate or index. An index is used as a benchmark. **Prime rate** is a common index that is used in credit cards and car loans.

Since variable rates fluctuate with the market causing risk to both the borrower and lender, how can rates be offered that are appealing to either the borrower or lender? That is where interest rate futures come into the picture.

Students watch a video to learn about the *Ins and Outs of Interest Rates*.

Video is located here: https://www.futuresfundamentals.org/see-the-impact/financial-futures/interest-rates-explained/



Section 2—Screen 16

Conclusion

This screen is the conclusion to Section 2 and the transition to Section 3.

Understanding the basics of interest rates and how interest rates are set are just a few key components.

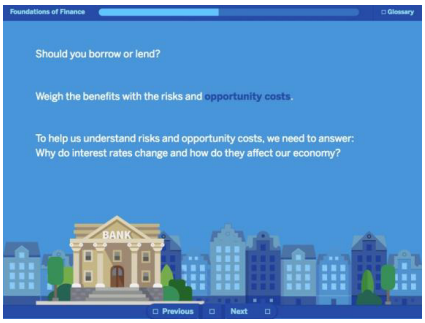
When would students need to borrow or lend in their life?

Often the benefits of borrowing and lending are obvious, but the risks are not.

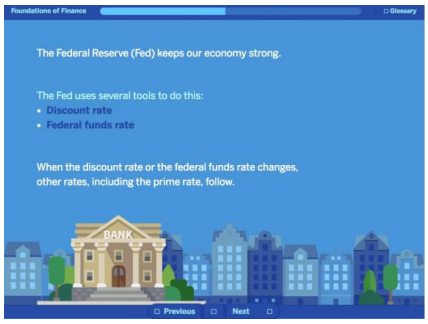
In the next section, students learn about what can happen when they borrow or lend money and how these concepts apply to their everyday life.

Section 3: Interest Rates

Estimated time to complete: 5–7 minutes



Section 3—Screen 1
This first screen in Section 3 introduces the concept of **opportunity costs** but then takes a step back. Students will want to understand why interest rates change and how they affect our economy.

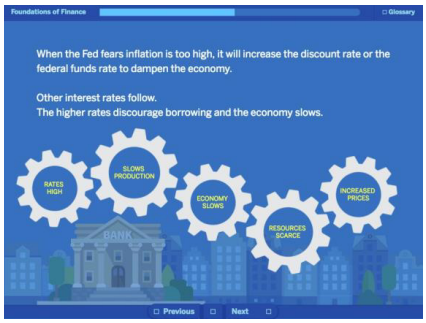


Section 3—Screen 2
The Federal Reserve (or the Fed) works to keep our economy strong by keeping unemployment and inflation low. It has several tools to do this, including affecting interest rates by changing the **discount rate** and **federal funds rate**.

When the discount rate or the federal funds rate changes, other rates, including the prime rate, follow.

Section 3—Screen 3
When the Fed wants to stimulate the economy, it lowers the **discount rate** and the **federal funds rate**. Then the interest rates on loans will also decrease. Students learn that this encourages more borrowing and spending, which should lead to a stronger economy.

A graph is presented to the students that shows how the federal funds rate has changed from the 1950s to 2016.



Section 3—Screen 4 & 5
This screen demonstrates what happens when the Fed fears inflation is too high. The Feds will dampen the economy by increasing the discount rate or the federal funds rate. Other interest rates follow, and the higher rates discourage borrowing, and the economy slows.

When rates are high, this slows production, as resources are expensive. When production slows, the economy slows, because decreased production leads to fewer consumer goods and less money in the economy. This makes supplies scarce, which leads to increased prices. Until interest rates decrease, supply will remain scarce.

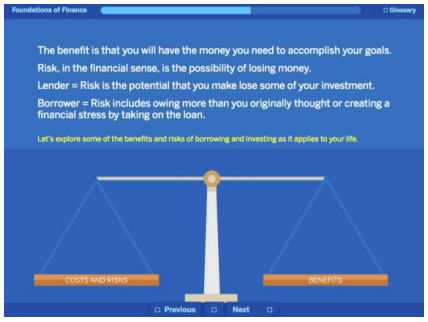
Section 3—Screen 6 & 7
Interest rates change over time and can benefit or harm borrowers or lenders.

This screen explores the benefit and risks associated with lower or higher interest rates in the United States and how they affect the economic health of the country. Students click on a button to see the benefits and costs.

The information provided to the students is located in the tables on the following page.

Lower Interest Rates Benefits	Lower Interest Rates Costs
• The lower rates allow banks to provide lower interest rates on savings, reducing the amount they pay out monthly to account holders. This allows banks to charge/pass along lower rates to its customers. • Lower interest rates could help reduce the fiscal deficit. The U.S. Treasury can issue government securities at lower rates. • Consumers are more likely to spend more than save. They will tend to purchase homes, open up credit cards, buy cars, and go to college. • Businesses spend more because they can borrow cheaply. This lets them invest in their business to increase their value.	• Retirees are not happy. The lower interest rates affect their savings and variable-rate pension funds, reducing their income. • Savers receive less interest for their savings. They have to cut spending and potentially dip into their principal.

Higher Interest Rates Benefits	Higher Interest Rates Costs
• Retirees' variable-rate pensions are being paid at a higher interest rate, making it easier to live on the interest instead of the principal. • Savers' rate of return is higher and risk is low. Because the interest rate on savings is higher, those who save are motivated to save more. • Producers do not have an incentive to invest more because interest rates are high, meaning that it costs more to borrow money, so producers will wait until interest rates decrease to start large projects. • Banks enjoy higher interest rates when loaning money, and profitability is increased.	• The borrowers with variable rate interest must pay more. • Consumers will not take out loans as readily. Now that loans are more expensive, consumers will not make large purchases, such as homes, automobiles, or luxury goods. • Businesses will not take out loans as readily. Higher interest rates mean that loans are more expensive. Businesses will slow production, which will result in higher unemployment and fewer consumer goods produced. • The government will have to pay higher interest rates on debt and offer higher redemption prices on T-bills. This increases the cost of borrowing and could cause the deficit to rise.



Section 3—Screen 8 & 9
This screen contains a simple interactive based on the students exploring the benefits and risks of borrowing and investing as it applies to their life.

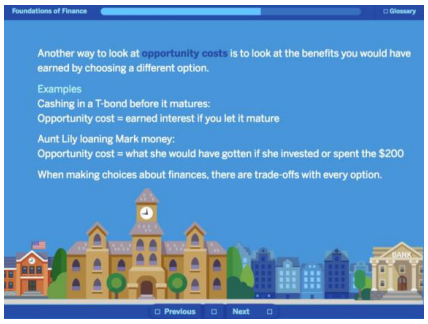
Students first learn more about risk in the financial sense. Financial risk is the possibility of losing money. As a lender it is the potential that you may lose some of your investment. As the borrower, risks include owing more than you originally thought, or creating a financial stress by taking on the loan.

Students click on an item to learn more. Below is a table with the information the students will explore.

Sidebar:
This is a good opportunity to discuss credit scores and credit history as a benefit. You don't necessarily have to have a credit card to build credit history.

Item	Text
Government Student Loan	**Benefits** • Lower interest rates • Various repayment plans • Payments can be deferred or paused **Risks** • Limits on amount you can borrow • If you drop out: Large debt and no degree • Does not cover all expenses
Private Bank Student Loan	**Benefits** • Covers additional expenses • Ease of application • Funds available immediately **Risks** • Higher interest rates • Pay interest while in school • No lenient deferment payment options
Car Loan	**Benefits** • Money available immediately • Competitive rates and terms • Build your credit score **Risks** • Buying beyond your means • Value of car less than money you owe • Debt can ruin your credit rating

Item	Text
Credit Card	**Benefits** • Convenience over carrying cash • Can help build credit score • Borrow money instantly for purchases **Risks** • Build up more debt • Interest rates are higher • Additional fees
Savings Account	**Benefits** • Low risk investments • Access money whenever • Easy to set up **Risks** • Lower interest rate = poor return • Charge annual fees • Potential penalty fees
Investment Account	**Benefits** • Helps economy grow • Good source of income • Generates compound interest **Risks** • More risky investments • May not earn interest • Not easily accessible



Section 3—Screen 10
Opportunity costs are different from risk. Another way to look at opportunity costs is to look at the benefits one would have earned by choosing a different option.

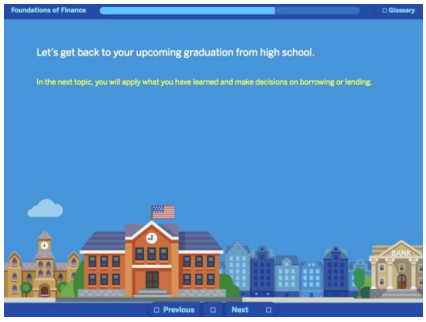
Examples of opportunity costs are presented to students. For example, an individual decides to cash in a T-bond that has not yet matured because the individual wanted the cash. The opportunity cost would be the money that the individual would have earned in interest if the student let the T-bond mature.

Another example is to consider Aunt Lily loaning Mark the money. Aunt Lily's opportunity cost is whatever she would have gotten if she invested or spent the two hundred dollars.

Section 3—Screen 11 & 12
Based on the scenarios presented, students choose if it is an opportunity cost, risk, or benefit. Students drag and drop the statement to the correct side of the scale. The scenario, answers, and feedback possibilities are below.

Scenario:
Your parents gave you a T-bond when you were younger. The interest rate on the T-bond is 3.56%. You have had the T-bond for 10 years. You decide to cash out the T-bond to use the money toward a down payment of a car. You then finance the remaining balance with a car loan. You were offered 1.9% financing on the remaining amount due for 5 years.

Statement	Answer	Incorrect Feedback	Correct Feedback
You have money for a down payment.	Benefit	You are incorrect. Having the money for a down payment is a benefit. The lower your initial purchase price, the lower your payments will ultimately be.	You are correct. Having the money for a down payment is a benefit. The lower your initial purchase price, the lower your payments will ultimately be.
The car will depreciate faster than it takes you to pay off the loan.	Risk	You are incorrect. This is an example of risk. Being that you took out a longer term loan, your car will most likely depreciate faster than you can pay off your loan.	You are correct. This is an example of risk. Being that you took out a longer term loan, your car will most likely depreciate faster than you can pay off your loan.
The money you spent on the down payment could have been earning interest for the next 20 years.	Opportunity Cost	You are incorrect. This is an opportunity cost. You made a choice to cash out the I Series T-Bond before it was done collecting interest. It could have collected interest at a higher rate for 20 more years.	You are correct. This is an opportunity cost. You made a choice to cash out the I Series T- Bond before it was done collecting interest. It could have collected interest at a higher rate for 20 more years.
If you lose your job, your car could be repossessed.	Risk	You are incorrect. This is a risk. If you lose your job and can't make your car payments, your loan could go into default and your car could be repossessed.	You are correct. If you lose your job and can't make your car payments, your loan could go into default and your car could be repossessed.
The down payment has made your overall payments lower.	Benefit	You are incorrect. This is a benefit. It is always in your best interest to put more money down to lower your total payments.	You are correct. It is always in your best interest to put more money down to lower your total payments.
You are building your credit.	Benefit	You are incorrect. By taking out a car loan you can help build your credit if you make your payments on time and pay off your loan in the terms given.	You are correct. By taking out a car loan you can help build your credit if you make your payments on time and pay off your loan in the terms given.



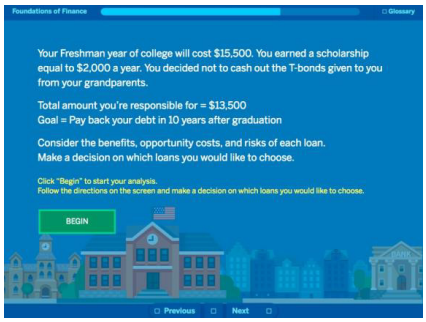
Section 3—Screen 13

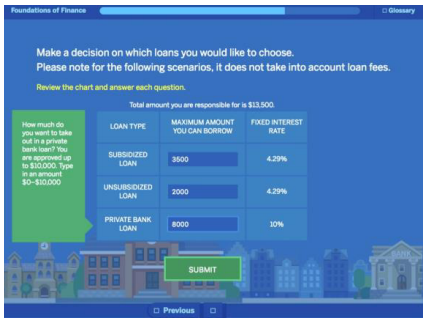
Conclusion

This screen is the conclusion to Section 3. Now that students have an overview of what interest rates are and understand the benefits, opportunity costs, and risk of borrowing and investing, they will apply what they have learned in the next section.

Section 4: Interest Rates in the Real World

Estimated time to complete: 10–15 minutes





Section 4—Screen 1
In this first screen of Section 4, students read a scenario about how much freshman year of college will cost. Based on the information provided, students will consider the benefits, opportunity costs, and risks of each loan.

Scenario:
Your freshman year of college will cost fifteen thousand, five hundred dollars. You just received great news! Your mother's employer has awarded you a scholarship. It will pay two thousand dollars a year as long as you remain a full-time student in good academic standing.

You decided, since the T-bonds your grandparents gave you still have the opportunity to earn interest, you are not going to cash out the bonds now.

You are now responsible for the remaining balance of thirteen thousand, five hundred dollars. Your goal is to pay back your debt in 10 years after graduation.

Section 4—Screen 2
On this screen, the students make a decision on how much of each loan they will choose. Based on what they type in for each amount, they will get specific feedback. This is an opportunity to remind the students that there is a cap to how much they can borrow from a government student loan if they qualify.

Solution:
Based on the optimal amount borrowed, and taking into consideration the student making the monthly payments as planned for 10 years (120 months), the student will owe the following interest for Freshman year:

	Principal	Total paid	Total interest
Subsidized Loan	$3,500	$3,976	$13,500
Unsubsidized	$2,000	$3,070	$1070*
Private Bank Loan	$8,000	$12,686	$4686
Total Borrowed	$13,500	$19,732	$6,232

* The interest accrued while the students were in college is added to the principal when they graduate. For the purposes of this learning module, it has been combined with the future interest (after college). For more information regarding the explanation, see the sidebar on Section 4—Screen 3.

Please refer to the table below for the questions the students will be asked.

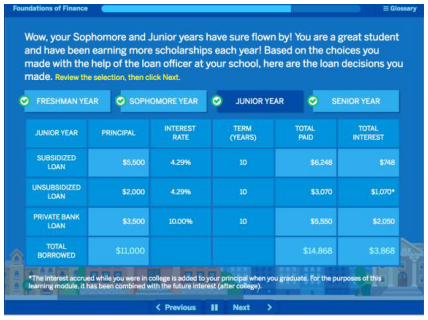
Question 1: How much do you want to take out in subsidized loans? You are eligible to borrow up to $3,500 with this type of loan. Please type in a number $0–$3,500.	
Student Types in:	**Feedback**
Less than $3,500	This is not the best choice. Remember that the subsidized loan's interest is paid by the government while you are in school. This is the best type of government student loan and it would be in your best interest to maximize the amount you may borrow. Would you like to reenter a new amount or continue?
$3,500	This is the best choice! Maximizing the amount you borrow for this type of loan is an excellent choice.
More than $3,500	The most you can take out in a subsidized loan is $3,500. Please type in a new amount.

Question 2: How much do you want to take out in unsubsidized loans? You are eligible to take out up to $2,000. Type in an amount $0–$2,000.	
Student Types in:	**Feedback**
Less than $2,000	This is not the best choice. Remember that the government loans have a fixed lower interest rate than a private bank loan. It would be in your best interest to maximize the amount you may borrow. Would you like to reenter a new amount or continue?
$2,000	Great choice! Maximizing the amount you borrow for this type of loan is an excellent idea.
More than $2,000	The most you can take out in a unsubsidized loans is $2,000. Please enter a new amount.

Question 3: How much do you want to take out in a private bank loan? You are approved up to $10,000. Type in an amount $0–$10,000.	
Student Types in:	**Feedback**
Less than $8,000	Are you sure? Consider how much you already borrowed. Do you have enough to cover all your expenses and tuition? Would you like to reenter a new amount or continue?
$8,000	Did you maximize the amount you took out in the subsidized and unsubsidized loans? If so, then this could be a great choice for you. Would you like to reenter a new amount or continue?
Greater than $8,000 but less than $10,000	The choice is up to you, but remember that you might not want to take out more than you actually need because private bank loans have larger interest rates and are not as forgiving as government loans. Would you like to reenter a new amount or continue?
More than $10,000	You are not qualified to take out more than $10,000. Please try again.

Based on the total amount the student borrowed, the following will be displayed:

Total Principal Borrowed Student Loan Only	**Feedback**
If Principal = $13,500	Congratulations! You only borrowed exactly what you needed, $13,500. But how did you compare to the optimal selection? If you were the same, well done! If not, you are going to be defaulted to the optimal amounts. You want to maximize the amounts you can borrow for each government loan as the interest rates are lower.
If Principal is less than $13,500	You borrowed less than what you needed and did not quite cover all your costs. Take a look at the optimal selection. You will be defaulted to the optimal selection for your loan amounts.
If Principal is greater than $13,500	You took out more than you needed. You only needed to take out $13,500. That means you took out more from a private bank loan. Private bank loans have higher interest rates. You would be paying more interest than what you see in the optimal selection. You are now defaulted to the optimal selection for your loan amounts.



Section 4—Screen 3
This screen summarizes the optimal choices students should make for each year in the scenario. Students can click on a year to review the total amount they borrowed, total paid, and total interest.

These calculations do not consider loan fees and are just estimates. The calculations assume the interest rate remains the same each year for each loan type. In reality, interest rates can increase or decrease each year. This is a great opportunity to explore current interest rates on student loans and discuss how these increases or decreases can affect their total interest paid.

These calculations also considered that the student deferred paying the interest on their unsubsidized loan by capitalizing it. See the sidebar below for more information.

Sidebar:
The disclaimer on the chart states, “The interest accrued while you were in college is added to your principal when you graduate." For the purposes of this learning module, it has been combined with the future interest (after college). For the unsubsidized loan, the chart does not depict the capitalized interest. The definition offered from the https://studentloans.gov page defines capitalized interest as “unpaid interest that has been added to the principal balance of a federal student loan. Future interest is charged on the increased principal balance and this may increase your monthly payment amount and the total amount you repay over the life of the federal student loan.”

During months 1-48, the interest accrued during school was $374. That interest would be added to the $2,000 principal to equal the new principal to start paying in month 49 as $2,374.

Interest accrued becomes $696. Total amount paid is $3,070 (2,374 + 696).

This is a good opportunity to discuss how the interest rates change by year and how the loan fees will impact their loan. You can direct the students to https://studentaid.gov/understand-aid/types/loans/interest-rates and loan fees for each government loan type.

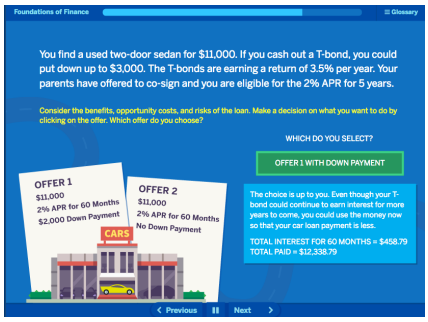
The tables provided to the student are shown on the following page.

Freshman year	Principal	Interest rate	Term (years)	Total paid	Total interest
Scholarship $2,000					
Subsidized Loan	$3,500	4.29%	10	$3,976	$476
Unsubsidized	$2,000	4.29%	10	$3,070	$1,070
Private Bank Loan	$8,000	10.00%	10	$12,686	$4,686
Total Borrowed	**$13,500**			**$19,732**	**$6,232**

Sophomore year	Principal	Interest rate	Term (years)	Total paid	Total interest
Scholarship $3,500					
Subsidized Loan	$4,500	4.29%	10	$5,112	$612
Unsubsidized	$2,000	4.29%	10	$3,070	$1,070
Private Bank Loan	$5,500	10.00%	10	$8,722	$3,222
Total Borrowed	**$12,000**			**$16,904**	**$4,904**

Junior year	Principal	Interest rate	Term (years)	Total paid	Total interest
Scholarship $3,500					
Subsidized Loan	$5,500	4.29%	10	$6,248	$748
Unsubsidized	$2,000	4.29%	10	$3,070	$1,070
Private Bank Loan	$3,500	10.00%	10	$5,500	$2,050
Total Borrowed	**$11,000**			**$14,868**	**$3,868**

Senior year	Principal	Interest rate	Term (years)	Total paid	Total interest
Scholarship $3,500					
Subsidized Loan	$5,500	4.29%	10	$6,248	$6,248
Unsubsidized	$2,000	4.29%	10	$3,070	$1,070
Private Bank Loan	$2,500	10.00%	10	$3,965	$1,465
Total Borrowed	**$10,000**			**$13,283**	**$3,283**

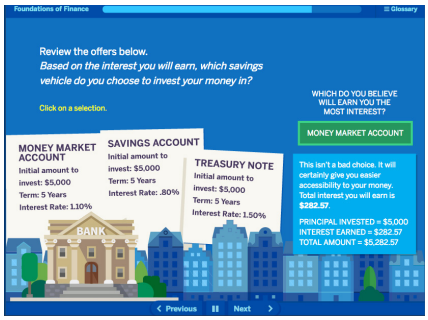


Section 4—Screen 4 & 5
The scenario continues with students needing to purchase a car for their summer internship. In the module, students find a used two-door sedan for $11,000. If they cash out a T-bond, they could put down up to $3,000. The T-bonds are earning a return of 3.5% per year. In this scenario, the student's parents have offered to cosign, and they are eligible for the 2% APR for 5 years.

Students must now decide if they will take the offer with the down payment or offer without the down payment.

The table below shows the feedback based on what the students select.

Student Selects	Feedback
Offer with Down Payment	The choice is up to you. Even though your T-bond could continue to earn interest for more years to come, you could use the money now so that your car loan payment is less.
Offer without Down Payment	The choice is up to you. You must have felt the opportunity cost of the T-bond earning interest outweighed the lower payment.



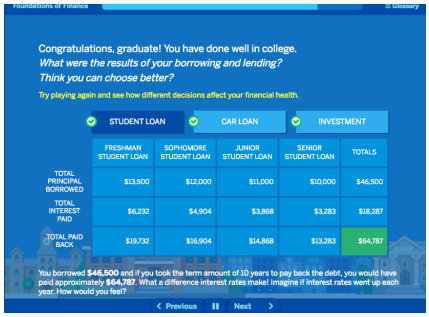
Section 4—Screen 6 & 7
In this activity, students are presented with a scenario to select personal finances. In the scenario, their grandparents have given them $5,000. Students review the chart and based on the interest they will earn, they select which savings vehicle they would choose to invest their money in.

Below are the chart, scenario, and feedback.

	Money Market Account	Savings Account	Treasury Note
Initial Amount to Invest	$5,000	$5,000	$5,000
Term	5 years	5 years	5 years
Interest rate	1.10%	0.80%	1.50%
Interest compounded	monthly	monthly	semiannually

Student Selects	Feedback
Money Market Account	This isn't a bad choice. It will certainly give you easier accessibility to your money. Total interest you will earn is **$282.57**.
Savings Account	This choice will offer you the least amount of interest earned. It is a safe choice but not the best. Total interest you will earn is **$203.99.**
Treasury Note	Great choice! This will give you the most interest earned at **$387.91**. After 1 year, you will have **$5,387.91.**

	Money Market Account	Savings Account	Treasury Note
Initial Amount to Invest	$5,000	$5,000	$5,000
Term	5 years	5 years	5 years
Interest rate	1.10%	0.80%	1.50%
Interest compounded	monthly	monthly	semiannually
Calculation	5,000(1+(1.1%/12) ^(5*12)	5,000(1+(0.8%/12) ^(5*12)	5,000(1+(1.5%/12) ^(5*12)
Total interest earned	$282.57	$203.99	$387.91

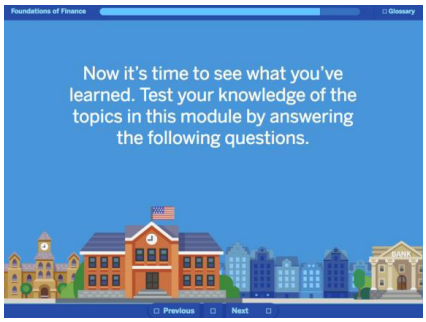


Section 4—Screen 8

Conclusion

On this screen the student will find out the results of their borrowing and lending. The student can click on each tab to review their choices.

Post Assessment



Post Assesment—Screen 1

Introduction Slide:

Now it's time to see what the students have learned. Students will test their knowledge of the topics in this module by answering the following questions. There are 4 question sets, with 22 total items.

For all question sets, learners get 2 tries to get all answers correct. If they are incorrect on 2nd try, they get "Incorrect 2nd try" feedback, and can advance.

Post Assesment—Screen 2

QUESTION 1: MATCHING

Read the following definitions. Match the definitions with the components of interest rates they are describing.

The person or organization that needs money **(Answer: D)**

The person or organization that supplies the money that is borrowed **(Answer: C)**

The original amount of the loan **(Answer: E)**

The agreed-upon payback period of the loan **(Answer: B)**

The cost to borrow money **(Answer: A)**

OPTIONS IN MATCHING:

- Interest
- Term
- Lender
- Borrower
- Principal

CORRECT FEEDBACK

Well done! You made the correct choices and understand the components of interest rates.

INCORRECT FEEDBACK 1

Not quite. Some of your selections were incorrect. Try again.

INCORRECT FEEDBACK 2

Not quite. The correct answers are now shown. Review this content to be sure you understand the components of interest rates.

Post Assesment—Screen 3

QUESTION 2: MULTIPLE SELECT

In which of the following situations are your personal finances affected by having to pay interest? (Correct answers in **bold**.)

Taking out an unsubsidized student loan

Opening up a savings account

Receiving a loan for a car

Placing your money into a mutual fund

Carrying a balance on a credit card

Purchasing a Treasury bond

CORRECT FEEDBACK

Well done! You made the correct choices. Your personal finances are affected when you pay or earn interest. You will pay interest when you are the borrower (e.g., student loans, car loans, or credit card balances). You will earn interest as the lender (e.g., savings accounts, mutual funds, or Treasury bonds).

INCORRECT FEEDBACK 1

Not quite. Some of your selections were incorrect. Try again.

INCORRECT FEEDBACK 2

Not quite. The correct answers are now shown. Your personal finances are affected when you pay or earn interest. You will *pay* interest when you are the borrower (e.g., student loans, car loans, or credit card balances). You will *earn* interest as the lender (e.g., savings accounts, mutual funds, or Treasury bonds).

Post Assesment—Screen 4

QUESTION 3: DRAG-AND-DROP FILL-IN FORM

Read the following statements about changing interest rates and how they affect our economy. Drag and drop the correct answer to complete each statement.

Decreasing the discount rate and the federal funds rate will _____ the economy.
(Answer: C)

Increasing the discount rate and federal funds rate will _____ the interest rates on loans.
(Answer: D)

Increasing the discount rate or federal funds rate will _____ the economy.
(Answer: B)

Decreasing the discount rate and federal funds rate will _____ the interest rates on loans.
(Answer: A)

OPTIONS FOR DRAG-AND-DROP:

a. decrease

b. dampen

c. stimulate

d. increase

CORRECT FEEDBACK

Well done! You made the correct choices. When the Federal Reserve wants to stimulate the economy, it will decrease the discount rate and federal funds rate, causing a decrease in interest rates. This encourages people to borrow and spend. When the Fed wants to slow down the economy, it will increase the discount rate and federal funds rate, causing the interest rates to rise. This will discourage borrowing and spending, and the economy slows.

INCORRECT FEEDBACK 1

Not quite. Some of your selections were incorrect. Try again.

INCORRECT FEEDBACK 2

Not quite. The correct answers are now shown. When the Federal Reserve wants to stimulate the economy, it will decrease the discount rate and federal funds rate, causing a decrease in interest rates. This encourages people to borrow and spend. When the Fed wants to slow down the economy, it will increase the discount rate and federal funds rate, causing the interest rates to rise. This will discourage borrowing and spending, and the economy slows.

QUESTION 4: DROP-DOWN SORTING

Think about the benefits and risks of borrowing and investing as they apply to your life. Read each statement below, and determine if it best describes a benefit or risk. Select the correct answer from the drop-down menu. (Correct answers in bold.)

1. Taking out a subsidized student loan that has lower interest rates (**benefit**/risk)
2. Placing your money in an investment account that is not easily accessible (benefit/**risk**)
3. Applying for a credit card that you use rarely, in order to increase your credit score (**benefit**/risk)
4. Taking out an unsubsidized student loan and making late payments (benefit/**risk**)
5. Opening a credit card that has higher interest rates (benefit/**risk**)
6. Taking out a car loan that offers competitive rates and terms (**benefit**/risk)
7. Setting up a savings account at your local bank (**benefit**/risk)

CORRECT FEEDBACK

Well done! You made the correct choices. The clear benefit of a loan or investment is that you will have the money you need to accomplish your goals. As the borrower, risks include owing more than you originally thought, or creating financial stress by taking on the loan. As a lender, the risk is the potential that you may lose some of your investment.

INCORRECT FEEDBACK 1

Not quite. Some of your selections were incorrect. Try again.

INCORRECT FEEDBACK 2

Not quite. The correct answers are now shown. The clear benefit of a loan or investment is that you will have the money you need to accomplish your goals. As the borrower, risks include owing more than you originally thought, or creating financial stress by taking on the loan. As a lender, the risk is the potential that you may lose some of your investment.

The score is presented to the learner.

(*If the student scored less than 65%*), they will be prompted to consider going through the module again.

(*If the student scored between 66% and 85%*), they will be given feedback that states they understand the components of interest rates. They are on their way to knowing the importance of interest rates to their personal financial health and the economy.

(*If the student scored between 86% and 100%*), the learner really understands interest rates and how they affect the economy and their personal financial health.

Confidence rating 2
On this screen, students are asked again how much they think they know about interest rates to gauge whether their confidence in their knowledge has improved as a result of this module. They can choose **nothing, just a little, a fair amount,** or **a lot**.

Appendix A: Glossary Terms and Definitions

Term	Definition
amortization	The process during a fixed payment schedule installment loan where a portion of the payment goes toward paying down the principal and the other portion to paying down the interest.
annual fee	The fee charged for the right to own and use the credit card.
APR (annual percentage rate)	A broad measure of the cost of borrowing. For example, many loans charge fees on top of interest. When these fees are included in the yearly cost of a loan, the percentage is called the APR.
borrower	A person or organization that needs money.
car loan	A loan you take out to finance the purchase of a new car.
compound interest rate	Calculates interest not only on the principal, but also on the interest.
discount rate	The interest rate that the Fed charges banks for a loan; this is a secured loan.
down payment	Cash paid toward the cost of a purchase to reduce the principal amount owed on a loan.
federal funds rate	The rate that banks charge one another for overnight loans; this is an unsecured loan.
fixed interest rate	A percentage that stays the same (or fixed) for the entire time the loan is paid back (term).
grace period	An amount of time (usually 20–30 days) before you have to pay back what you borrowed with the credit card before incurring interest charges.
interest	The cost a borrower pays a lender for borrowing money, or the fee that the lender charges the borrower for the loan. It is determined by an interest rate.
interest charges	The charges that occur when you do not pay back the amount you borrowed on a credit card; the charge is a percentage of the principal amount you owe.
interest rate	The percentage rate of the principal that the borrower must pay in interest.

Term	Definition
late fee	If you miss a payment or are late, you will be charged a fee.
lender	A person or organization (like a bank) that has money that can be lent out to a person or company that needs money. The lender anticipates the money being paid back.
loan	Money given to or received from another party with the agreement that the money will be repaid in the full amount along with interest.
money market account	An account that pays interest that varies according to current interest rates, typically higher than savings account rates, and with limitations on how much can be withdrawn.
opportunity cost	The actual cost of a choice that you decided against in order to choose something else.
Parent loan (PLUS)	A low-cost student loan designed for parents to borrow money on the behalf of post-secondary undergraduate students.
Perkins loan	A program that provides low-interest student loans to those who demonstrate exceptional financial need.
prime rate	The interest rate that commercial banks charge their best-rated customers, largely determined by the federal funds rate.
principal	The original amount of the loan.
rates of return	A measure of the gain or loss on an investment over a given period of time, calculated as a percentage of the investment's cost.
risk	Uncertainty about future outcomes.
savings account	An account kept at a bank that earns a small amount of interest.
simple or nominal interest rate	A percentage of the principal only.
Stafford loan	A federal, fixed-rate student loan designed for college students who are attending school at least half-time.
term	The agreed-upon payback period of the loan; at the end of the term, the principal amount and agreed-upon interest must be repaid.
transaction fee	The fee associated with using the cash advance option on your credit card.

Term	Definition
Treasury bill	A short-term security issued by the U.S. Treasury that lasts for one year or less; it does not pay interest but is issued at a discount and can be sold at full price.
Treasury bond	A long-term bond issued by the U.S. Treasury; they pay interest twice a year and last between 10 and 30 years.
Treasury note	A debt instrument issued by the U.S. government that lasts between 1 and 10 years; it pays a fixed interest rate.
variable interest rate	A rate that can change as the loan is repaid; the rate can go up or down based on certain factors, and this can sometimes mean the recurring payment changes accordingly.

Appendix B: Educational Standards

This module aligns with the Voluntary National Content Standards in Economics (2nd edition), developed by the Council for Economic Education. Specific 12th-grade.

INTEREST RATES

Standard 12: Interest rates, adjusted for inflation, rise and fall to balance the amount saved with the amount borrowed, which affects the allocation of scarce resources between present and future uses.

ECONOMIC GROWTH

Standard 15: Investment in factories, machinery, new technology, and in the health, education, and training of people stimulates economic growth and can raise future standards of living.

Students will be able to use this knowledge to:

- Explain situations in which they pay or receive interest, and explain how they would react to changes in interest rates if they were making or receiving interest payments. (Content Standard 12)
- Predict the consequences of investment decisions made by individuals, businesses, and governments. (Content Standard 15)

Appendix C: Additional Resources

FUELING THE FUTURE

The price of fuel is often a factor that must be considered when a business sets prices for products and services. But how are fuel prices set? In this simulation, students must predict future gas prices to help an imaginary business turn a profit. But first they must learn how and why gas prices fluctuate and the impact of those changing gas prices.

FUTURES FUNDAMENTALS

Take your economics understanding to the next level with Futures Fundamentals, the program that brought you Econ Essentials. Explore investing concepts like futures, hedging, and speculating and discover how each plays an essential role in the world around us. Learn through interactive elements including videos, quizzes, a game, and a large collection of easy-to-understand infographics.

Federal Student Aid
https://studentaid.gov/

Board of Governors of the Federal Reserve System
https://www.federalreserve.gov/

Financial Aid Videos
http://www.fastweb.com/content/financial-aid-videos

Short-Answer Research Questions

Have you thought about owning a car? Take a few minutes to do some web research to find the car you like and the dealership financing for that car. Find an online auto loan calculator.

ANSWER EACH OF THE FOLLOWING QUESTIONS:

1. Which car did you choose, and what is the offer? Break down what the offer means, being sure to describe the principal amount you would need to borrow, the down payment, interest rate, terms, fees, and any penalties. As the borrower, what is your obligation?
2. List the auto loan calculator your found and what your monthly payment would be with or without down payment. How did adding a down payment affect your monthly payment?
3. Exchange the interest rate you found on the loan with a 5% interest rate. Recalculate your new monthly payment. Did the interest rate cause your payment to go up or down? How do you feel about your new payment? Would you still purchase the car?