

OVERVIEW

Even if you don't need to borrow money today, you'll soon be flooded with tempting offers for car loans, credit cards, cash-advance loans, cellphone service, and more. Boosting your borrowing IQ now will prepare you to make smarter decisions whenever you decide to take the credit plunge.

This lesson will help you calculate the costs of borrowing options.

LEARNING OUTCOMES

In this lesson students calculate the costs of borrowing options. Along the way they will:

- ☒ Give examples of how credit is used.
- ☒ Identify typical costs and terms of credit.
- ☒ Calculate the cost of using credit.

Students will use what they learn to consider borrowing options for a specific situation.

PREPARATION

- ☐ Order a Module 2 Student Guide for each student. (The Guide is also available online to download.)
- ☐ Preview the lesson PowerPoint presentation, learning tasks, and Module 2 Student Guide, particularly pages 9-15.
- ☐ Print or download the Student Learning Plan for this lesson so each student has a copy.

WHAT YOU WILL NEED

- ☐ Module 2 Student Guide (pages 9-15)
- ☐ PowerPoint presentation 2-2
- ☐ Student Learning Plan 2-2
- ☐ Task: Pick an Option (Tasks 1 and 4)
- ☐ Activity 2-3: Simply Tell the Total
- ☐ Activity 2-4: What is the Average Payment?
- ☐ Challenge 2-A: DECIDE the Best Deal for You
- ☐ (optional) Calculators (Tasks 2 and 4)
- ☐ Internet, amortization calculator (Task 3)

NOTES

Approximate time: 45 minutes (minimum) - 90 minutes (with extension activities)

LEARNING TASKS	TEACHING NOTES	MATERIALS
1. Jesse did the math on a laptop deal and realized the bargain wasn't a bargain at all. See if you can spot a bargain from several offers.	PROCEDURE TIME ESTIMATE: 5 minutes ☐ Read about Jesse's laptop deal to introduce the activity (Student Guide, page 12). ☐ [Slide 2] Distribute the Pick an Option task to each student or team of students. Have students read through each purchasing opportunity and, based on a quick analysis or gut hunch, select what they think would be the better borrowing option. At this time, they will only do a quick response to fill in the left column. (Note: Students will fill in the remaining columns later in the lesson. Although there are right and wrong answers—students will perform the math during Learning Task 4 to compare the monthly and total costs for each scenario.) ☐ Once they are finished, relate to students that many salespeople hope that consumers will make purchasing and financing decisions based on whether something seems like a deal, rather than doing the math to see if it really is or not. EXTENSION: Assign students to bring in examples of local sales flyers, brochures, or ads designed to get consumers to buy a big ticket item without thinking about the real cost of the item once it is financed. Examine the advertising and sales techniques used. Discuss the psychology of advertising. ☐ [Slide 3] Transition into the lesson by telling the students that they will learn about the costs of using credit. Preview the Learning Outcomes in the Student Learning Plan. By the end of this lesson, the students should be able to compare costs and terms to select credit for a specific situation.	Module 2 Student Guide Student Learning Plan 2-2 Student Guide pages 9-13 SLIDES 2 – Which is Better? 3 – Preview ACTIVITY Task: Pick an Option
2. Listen to a presentation about the costs of using credit. Complete Activity 2.3: Simply Tell the Total to calculate the total costs of credit purchases.	PROCEDURE TIME: 10 minutes ☐ [Slide 4] Provide an explanation of credit terminology. Explain that borrowing money comes with a price. A lender is willing to extend credit because it can be profitable if the amount is repaid with interest. When deciding if using credit is worthwhile, the borrower needs to take into consideration all costs of credit and how repayment will impact the ability to meet other spending obligations. [Note: The slide example was calculated using the amortization formula, which is presented later in this lesson.]	STUDENT GUIDE Pages 9-10 SLIDES 4 – The Language of Credit 5 – Adding It Up 6 – Simple Interest ACTIVITY Activity 2.3: Simply Tell the Total

Lesson 2-2: Credit Costs

LEARNING TASKS	TEACHING NOTES	MATERIALS
	☐ [Slide 5] Provide an example of how borrowing adds costs to a purchase by sharing the experience of Jesse's brother. Ask for answers to the questions as a transition into calculating interest. [Answer: Jesse's brother will pay more than \$150 for the tire. Using the simple interest formula, he will pay a total of \$151.25 because he will repay the amount borrowed (\$150) plus the interest charged (10%) for 30 days (1/12 year). $\\$150 (P) \times .10 (R) \times 1/12 (T) = \\$1.25 (I)$ ☐ Point out that interest is the main cost involved with borrowing. Explain that payments made to repay borrowed amounts will vary depending on how the interest is calculated. This will vary due to the rate of interest, the amount borrowed, and how often interest is calculated. ☐ [Slide 6] Review how interest is calculated using the simple interest formula and example. ☐ Guide students to practice calculating interest as they complete Activity 2.3: Simply Tell the Total.	
3. Calculate average monthly payments to repay a loan. Complete Activity 2.4: What is the Average Payment.	PROCEDURE TIME: 15 minutes ☐ [Slide 7] Point out that lenders actually use a more complex formula to calculate the average monthly payments due on loans. Explain that as the principal is paid off on a loan, interest is recalculated on the adjusted lower principal balance. Because this would be cumbersome for someone to recalculate every time a payment is due, the Amortization Calculation Formula is used to figure out the average monthly payment over the term of the loan. Knowing an average amount to be paid each month is helpful when planning a monthly spending plan or budget. ☐ [Slide 8] Illustrate how much of a monthly payment is applied to interest and to the principal each month using the amortization calculations. (Student Guide, page 11). ☐ Prompt the students to calculate the monthly amounts owed for changes in Activity 2.4: What is the Average Payment? using the amortization calculation formula (either by hand or using a financial calculator). Note: A calculation worksheet is available online for instructors to reference for both Activity 2.4 the Pick and Option Task.	STUDENT GUIDE Pages 10-11 SLIDES 7 – Average Monthly Payment 8 – Amortization Chart ACTIVITY Activity 2.4: What is the Average Payment? Internet, online amortization calculator (or) electronic spreadsheet software (MS Excel)

LEARNING TASKS	TEACHING NOTES	MATERIALS
4. Mariah did a good job of comparing credit card options available to her. How good were your instincts? Time to find out if you were right. Figure out the monthly payment, total interest paid, and total cost for several purchases by completing the Pick an Option task. Figure out which is the better deal. Then, choose which deal you would take, and explain why you made that choice.	PROCEDURE TIME: 10 minutes ☐ [Slide 9] Introduce additional credit terminology. [Slide 10] Review types of credit options and how payments may differ with related costs. ☐ [Slides 11-12] Illustrate ways that credit can get expensive when someone encounters a high interest rate or chooses to make minimal payments. ☐ Facilitate a discussion about the long-term impact of compound interest when minimum payments are made. Point out that each month a credit card balance is unpaid, interest is calculated on the new amount owed which includes the original amount that was borrowed and also the amount of interest that was applied to any previously unpaid balances (aka compounding). ☐ Direct the students to the Pick an Option task that was used earlier in the lesson. Arrange for the students to work alone, in pairs, or small groups to calculate the monthly payment amount, the total amount that will be paid and the total finance charges. (If time is pressing, assign one scenario to each person, team, or group.) Note: If the students' math skills are strong, reinforce their abilities by guiding them to complete calculations on their own. Encourage the students to create an amortization schedule/chart using an electronic spreadsheet. Note: A calculation worksheet is available online for instructors to reference for both Activity 2.4 the Pick and Option Task. ☐ If time allows, have students share their answers, including which deal they would accept and why. Sometimes, the better money deal is not the right answer for an individual, especially if the monthly payment is high and goes beyond one's income-debt ratio or puts a strain on a monthly spending plan.	STUDENT GUIDE Pages 11, 19 SLIDES 9 – More Terms to Know 10 – Credit Options 11 – Beware of Compound Interest 12 – When You Charge Stuff 13 – How Long Will it Take? ACTIVITY Task: Pick an Option
5. Pick a situation where you or your family uses credit. Complete Challenge 2-A: DECIDE The Best Deal for You.	PROCEDURE In- class or out-of-class assignment ☐ [Slide 13] Assign the students to complete Challenge 2-A: DECIDE The Best Deal for You. This challenge will also apply to Lesson 2-4: Risks and Responsibilities.	STUDENT GUIDE Page 23 SLIDE 14 - Challenge ACTIVITY Challenge 2-A: DECIDE the Best Deal for You

LEARNING TASKS	TEACHING NOTES	MATERIALS
TAKING IT HOME Compare phone calling plans to decide the best option for your family.	PROCEDURE Out-of-class assignment ☐ Have students gather information alone or in pairs to research local options for cellphones and phone plans that are available in the community. Assign students to apply the DECIDE steps to select a phone or phone plan that works best for their needs and their budget (real or potential budget).	Internet
FURTHER STUDY Gather information about leasing a car to compare to purchasing a car.	PROCEDURE In-class or out-of-class assignment ☐ Either have students conduct their own research, or arrange for a car dealership representative to share with the class information about car lease agreements. Guide students to compare the costs of leasing to purchasing a car as well as other factors that might influence a person's decision to lease or own a vehicle.	Internet or car dealership representative

**TAKING IT HOME**

Compare phones and calling plans for your family. Gather information about at least two local phone plans provided by different companies. Find out what information you need to provide to the phone companies when you apply for the phone plans.

Use the DECIDE decision-making process learned in Module 1 to establish criteria for selecting a phone plan based on your current needs and financial situation. Compare the terms of each plan, and consider the advantages and disadvantages of each plan. Decide which option best meets your criteria.

**FURTHER STUDY**

Bring in car ads that include leasing options and financing information. Calculate out the cost of vehicles, comparing leasing versus purchasing. Discuss the financial issues (good and bad) related to leasing a vehicle. Who would be the best candidate to lease a car? When might it make sense to lease a car versus purchasing a car?

NEFE'S HIGH SCHOOL FINANCIAL PLANNING PROGRAM
LESSON 2-2: CREDIT COSTS



NEFE'S HIGH SCHOOL FINANCIAL PLANNING PROGRAM
LESSON 2-2: CREDIT COSTS

Credit Costs

TODAY YOU WILL . . .
EXAMINE THE COSTS OF CREDIT.

1

©2014 National Endowment for Financial Education | Lesson 2-2: Credit Costs

HSFP
HIGH SCHOOL
FINANCIAL
PLANNING
PROGRAM

- ❑ Display this slide as you kick off the lesson.

NEFE'S HIGH SCHOOL FINANCIAL PLANNING PROGRAM
LESSON 2-2: CREDIT COSTS

Which is better?

Choose an Option

- ? Computer: Make payments for 24 or 36 months?
- ? Stereo System: Pay 13.5 or 18 percent interest?
- ? Car: Lower price at higher interest rate?
- ? TV: Delay payments for 90 days?
- ? Truck: \$1,500 cash back or no cash back?

2 ©2014 National Endowment for Financial Education | Lesson 2-2: Credit Costs HIGH SCHOOL FINANCIAL PLANNING PROGRAM

Student Guide, page 12

- ❑ Read about Jesse's laptop deal to introduce the activity (Student Guide, page 12).
- ❑ Distribute the **Pick an Option task** to each student or team of students. Have students read through each purchasing opportunity and, based on a quick analysis or gut hunch, select what they think would be the better borrowing option. At this time, they will only do a quick response to fill in the left column. (Note: Students will fill in the remaining columns later in the lesson. Although there are right and wrong answers—students will perform the math during Learning Task 4 to compare the monthly and total costs for each scenario.)
- ❑ Once they are finished, relate to students that many salespeople hope that consumers will make purchasing and financing decisions based on whether something seems like a deal, rather than doing the math to see if it really is or not.

EXTENSION: Assign students to bring in examples of local sales flyers, brochures, or ads designed to get consumers to buy a big ticket item without thinking about the real cost of the item once it is financed. Examine the advertising and sales techniques used. Discuss the psychology of advertising.

Preview

Today we will answer these questions:

- How is credit used?
- What are typical costs of credit?
- How do I calculate the cost of using credit?

Use what you learn today to
consider borrowing options
for a specific situation.

3 ©2014 National Endowment for Financial Education | Lesson 2-2: Credit Costs

NEFE HIGH SCHOOL FINANCIAL PLANNING PROGRAM

- ❑ Transition into the lesson by telling the students that they will learn about the costs of using credit. Preview the Learning Outcomes in the Student Learning Plan. By the end of this lesson, the students should be able to compare costs and terms to select credit for a specific situation.

NEFE'S HIGH SCHOOL FINANCIAL PLANNING PROGRAM
LESSON 2-2: CREDIT COSTS

The Language of Credit

Buying on Credit
Making a purchase now and promising to repay later

Principal (\$)
the cost of the item bought on credit or the amount of money borrowed

Interest (%)
What the lender charges for using credit, usually a percentage of the principal

Example:
Mariah's mom *borrowed \$10,000 (principal) to buy a used car on credit.*
By the end of three years she repaid the \$10,000 that was borrowed plus 3.5% interest for a total of \$10,549.

4 ©2014 National Endowment for Financial Education | Lesson 2-2: Credit Costs HIGH SCHOOL FINANCIAL PLANNING PROGRAM

Student Guide, page 9

- ❑ Provide an explanation of credit terminology. Explain that borrowing money comes with a price. A lender is willing to extend credit because it can be profitable if the amount is repaid with interest. When deciding if using credit is worthwhile, the borrower needs to take into consideration all costs of credit and how repayment will impact the ability to meet other spending obligations.

Note: The slide example was calculated using the amortization formula, which is presented later in this lesson.

NEFE'S HIGH SCHOOL FINANCIAL PLANNING PROGRAM
LESSON 2-2: CREDIT COSTS

Adding It Up

Jesse's brother had a flat tire on his car, but he didn't have the money on hand to buy a new tire that day.

He was able to purchase a new tire by arranging to repay the \$150 owed (**principal**) for the tire plus 10 percent (**interest**) in 30 days.

*Will Jesse pay more or less than \$150 for the tire?
How could Jesse have avoided paying more than the cost of the tire?*

5 ©2014 National Endowment for Financial Education | Lesson 2-2: Credit Costs HIGH SCHOOL FINANCIAL PLANNING PROGRAM

Student Guide, page 9

- ❑ Provide an example of how borrowing adds costs to a purchase by sharing the experience of Jesse's brother. Ask for answers to the questions as a transition into calculating interest.

[Answer is shown on the next slide: Jesse's brother will pay more than \$150 for the tire. Using the simple interest formula, he will pay a total of \$151.25 because he will repay the amount borrowed (\$150) plus the interest charged (.10) for 30 days (1/12 year).

$$\$150 \text{ (Principal)} \times .10 \text{ (Rate)} \times 1/12 \text{ (Time in years)} = \$1.25 \text{ (Interest)}$$

- ❑ Point out that interest is the main cost involved with borrowing. Explain that payments made to repay borrowed amounts will vary depending on how the interest is calculated. This will vary due to the rate of interest, the amount borrowed, and how often interest is calculated.

Simple Interest

Calculate a lump sum to be repaid on a due date.

$$\begin{array}{ccccccc} \text{Interest} & = & \text{Principal} & \times & \text{Interest Rate} & \times & \text{Time} \\ \text{(in dollars)} & & \text{(in dollars)} & & \text{(as decimal)} & & \text{(no. of years)} \end{array}$$

$$\$1.25 = \$150 \times .10 \times 1/12$$

Student Guide, pages 9-10

- ☐ Review how interest is calculated using the simple interest formula and example.
- ☐ Guide students to practice calculating interest as they complete **Activity 2.3: Simply Tell the Total.**

Average Monthly Payment

- As principal is repaid, the interest owed changes.
- Use the amortization calculation formula to determine the average payments.
- Fit average payments into spending plan.

Amortization Calculation Formula:

$$A = P \frac{r(1 + r)^n}{(1 + r)^n - 1}$$

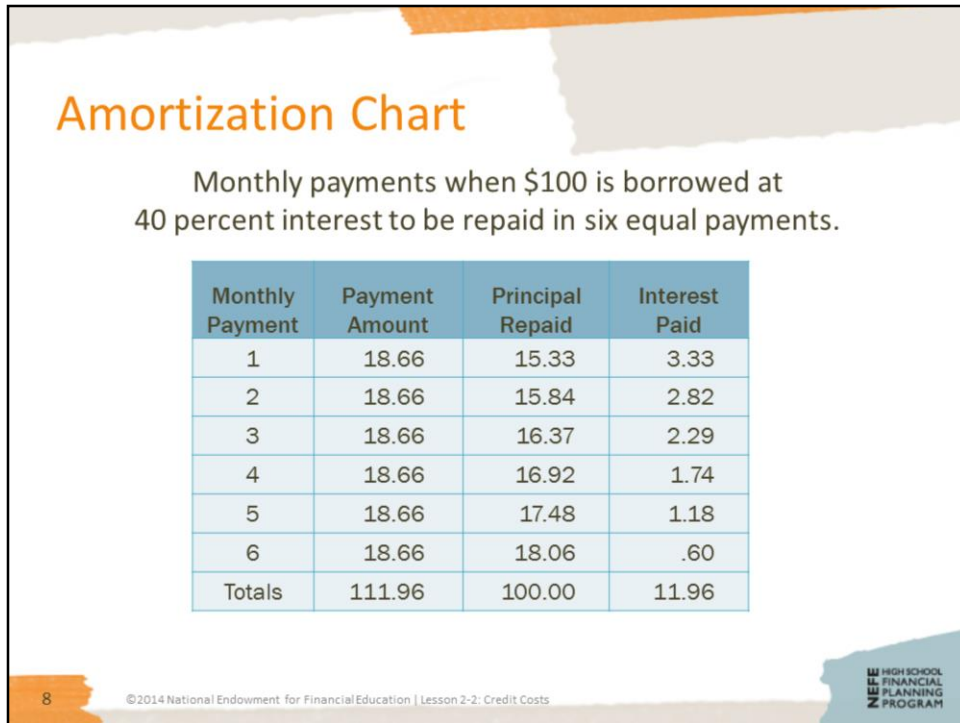
A = payment amount
P = initial principal (loan amount)
r = interest rate per period
n = total number of payments or periods

7 ©2014 National Endowment for Financial Education | Lesson 2-2: Credit Costs HIGH SCHOOL FINANCIAL PLANNING PROGRAM

Student Guide, page 11

- ❑ Point out that lenders actually use a more complex formula to calculate the average monthly payments due on loans. Explain that as the principal is paid off on a loan, interest is recalculated on the adjusted lower principal balance. Because this would be cumbersome for someone to recalculate every time a payment is due, the Amortization Calculation Formula is used to figure out the average monthly payment over the term of the loan. Knowing an average amount to be paid each month is helpful when planning a monthly spending plan or budget.

NEFE'S HIGH SCHOOL FINANCIAL PLANNING PROGRAM
LESSON 2-2: CREDIT COSTS



Student Guide, page 11

- ❑ Illustrate how much of a monthly payment is applied to interest and to the principal each month using the amortization calculations. (Student Guide, page 11).
- ❑ Prompt the students to calculate the monthly amounts owed for changes in **Activity 2.4: What is the Average Payment?** using the amortization calculation formula (either by hand or using a financial calculator).

Note: A calculation worksheet is available online for instructors to reference for both Activity 2.4 the Pick and Option Task.

More Terms to Know

Annual Percentage Rate (APR) %
Consistent way to report interest;
includes interest rate, fees, and loan costs

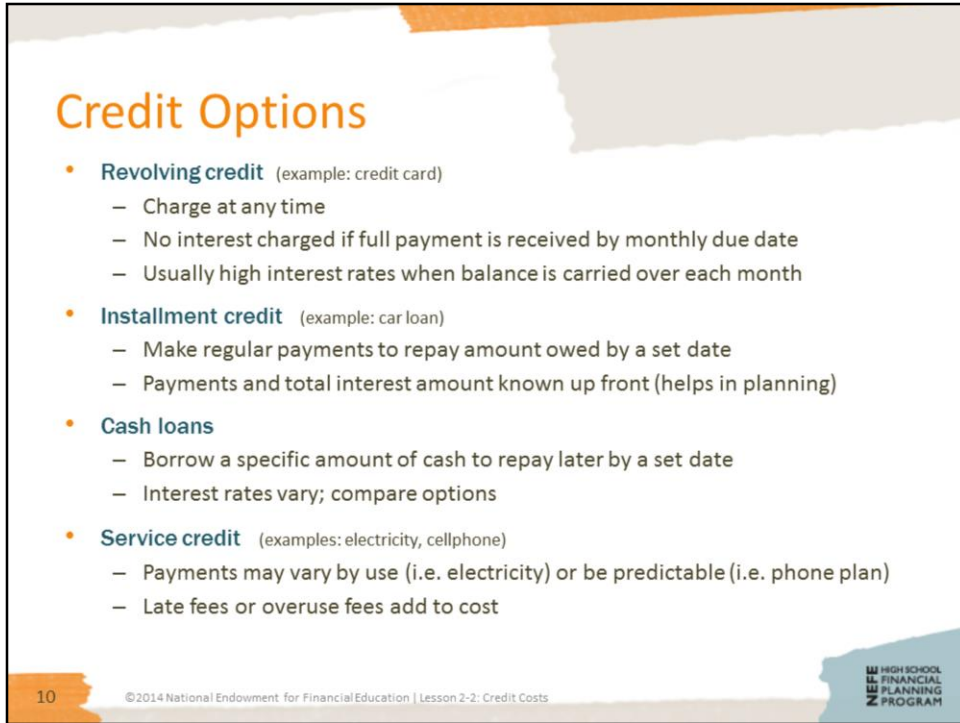
Maturity Date
When the final payment is due for a loan

Grace Period
The amount of time before interest
starts accumulating on charged purchases
if payment is not received

9 ©2014 National Endowment for Financial Education | Lesson 2-2: Credit Costs HIGH SCHOOL FINANCIAL PLANNING PROGRAM

- Introduce additional credit terminology.

NEFE'S HIGH SCHOOL FINANCIAL PLANNING PROGRAM
LESSON 2-2: CREDIT COSTS



Credit Options

- **Revolving credit** (example: credit card)
 - Charge at any time
 - No interest charged if full payment is received by monthly due date
 - Usually high interest rates when balance is carried over each month
- **Installment credit** (example: car loan)
 - Make regular payments to repay amount owed by a set date
 - Payments and total interest amount known up front (helps in planning)
- **Cash loans**
 - Borrow a specific amount of cash to repay later by a set date
 - Interest rates vary; compare options
- **Service credit** (examples: electricity, cellphone)
 - Payments may vary by use (i.e. electricity) or be predictable (i.e. phone plan)
 - Late fees or overuse fees add to cost

10 ©2014 National Endowment for Financial Education | Lesson 2-2: Credit Costs

HSFP
HIGH SCHOOL
FINANCIAL
PLANNING
PROGRAM

Student Guide, pages 7, 18-19

- ❑ Review types of credit options and how payments may differ with related costs.

NEFE'S HIGH SCHOOL FINANCIAL PLANNING PROGRAM
LESSON 2-2: CREDIT COSTS

Beware of Compound Interest

Month	Principal	20% APR*	Balance Due
1	\$1,000.00	\$16.67	\$1,016.67
2	\$1,016.67	\$16.94	\$1,033.61
3	\$1,033.61	\$17.23	\$1,050.84
4	\$?	\$?	\$?

*The simple interest formula was used to illustrate the compounding of interest.

Compound Interest = Interest on Interest (and principal)

Interest is calculated on the initial principal
and also on the accumulated interest applied to
unpaid principal during previous loan periods.

11

©2014 National Endowment for Financial Education | Lesson 2-2: Credit Costs

HIGH SCHOOL
FINANCIAL
PLANNING
PROGRAM

Page 19 (NEW in 2013 edition)

- ☐ Point out that each month a credit card balance is unpaid, interest is calculated on the new amount owed which includes the original amount that was borrowed and also the amount of interest that was applied to any previously unpaid balances (aka **compounding**).
- ☐ Use the figures in the chart to illustrate how interest compounds on unpaid balances.

When You Charge "Stuff"

You bought "stuff" with your credit card.
In fact, you bought \$500 worth of "stuff" with your credit card.

Your APR is 18 percent.
You plan to pay \$10 a month to pay it off.

You will pay **\$431** in interest.
Final cost of your purchases = **\$931.40**

It will take **seven years and nine months** to pay off balance.

12 ©2014 National Endowment for Financial Education | Lesson 2-2: Credit Costs

- ❑ Illustrate ways that credit can get expensive when someone encounters a high interest rate or chooses to make minimal payments.
- ❑ Facilitate a discussion about the long-term impact of **compound interest** when minimum payments are made.

How Long Will it Take?

You owe \$3,000.
The credit card APR is 18 percent.
You currently pay 4 percent of the current balance.

You will pay **\$1,716** in interest
Final cost of your purchases = **\$4,716**

It will take nearly eleven years

After the last payment is made,
will you still have the items
or want what you purchased?

13

SCHOOL FINANCIAL PLANNING PROGRAM

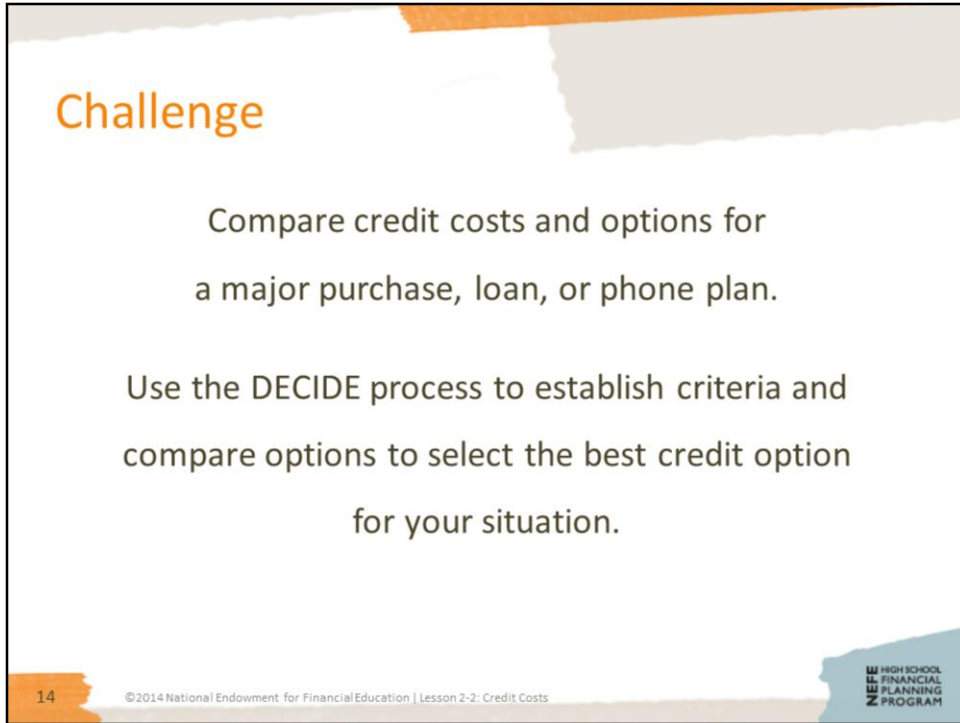
- ❑ Provide another example to illustrate ways that credit can get expensive when someone encounters a high interest rate or chooses to make minimal payments.
- ❑ Direct the students to the **Pick an Option** task that was used earlier in the lesson. Arrange for the students to work alone, in pairs, or small groups to calculate the monthly payment amount, the total amount that will be paid and the total finance charges. (If time is pressing, assign one scenario to each person, team, or group.)

Note: If the students' math skills are strong, reinforce their abilities by letting them complete calculations on their own. Encourage the students to create an amortization schedule/chart using an electronic spreadsheet.

Note: A calculation worksheet is available online for instructors to reference for both Activity 2.4 the Pick and Option Task.

- ❑ If time allows, have students share their answers, including which deal they would accept and why. Sometimes, the better money deal is not the right answer for an individual, especially if the monthly payment is high and goes beyond one's income-debt ratio.

NEFE'S HIGH SCHOOL FINANCIAL PLANNING PROGRAM
LESSON 2-2: CREDIT COSTS

A slide titled "Challenge" with a torn paper background. The text is centered and reads: "Compare credit costs and options for a major purchase, loan, or phone plan. Use the DECIDE process to establish criteria and compare options to select the best credit option for your situation." The slide includes a footer with the number 14, copyright information, and the NEFE logo.

Challenge

Compare credit costs and options for a major purchase, loan, or phone plan.

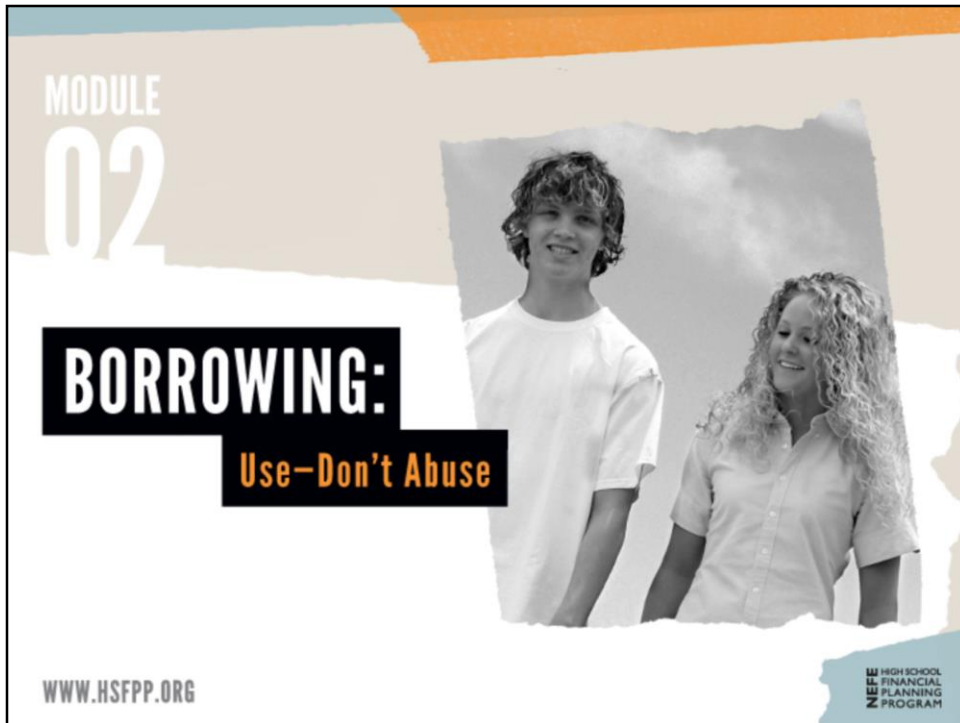
Use the DECIDE process to establish criteria and compare options to select the best credit option for your situation.

14 ©2014 National Endowment for Financial Education | Lesson 2-2: Credit Costs HIGH SCHOOL FINANCIAL PLANNING PROGRAM

Student Guide, page 23

- ☐ Assign the students to complete **Challenge 2-A: DECIDE The Best Deal for You**. This challenge will also apply to Lesson 2-4: Risks and Responsibilities.

NEFE'S HIGH SCHOOL FINANCIAL PLANNING PROGRAM
LESSON 2-2: CREDIT COSTS



OVERVIEW

Even if you don't need to borrow money today, you'll soon be flooded with tempting offers for car loans, credit cards, cash-advance loans, cellphone service, and more. Boosting your borrowing IQ now will prepare you to make smarter decisions whenever you decide to take the credit plunge.

This lesson will help you calculate the costs of borrowing options.

LEARNING OUTCOMES

In this lesson you will calculate the costs of borrowing options. Along the way you will:

- ☒ Give examples of how credit is used.
- ☒ Identify typical costs and terms of credit.
- ☒ Calculate the cost of using credit.

Use what you learn to consider borrowing options for a specific situation.

LEARNING TASKS

These tasks match pages 9-15 in Student Guide 2.

___ 1.	Jesse did the math on a laptop deal and realized the bargain wasn't a bargain at all. See if you can spot a bargain from several offers.
___ 2.	Listen to a presentation about the costs of using credit. Complete Activity 2.3: Simply Tell the Total to calculate the total costs of credit purchases.
___ 3.	Calculate average monthly payments to repay a loan. Complete Activity 2.4: What is the Average Payment.
___ 4.	Mariah did a good job of comparing credit card options available to her. How good were your instincts? Time to find out if you were right. Figure out the monthly payment, total interest paid, and total cost for several purchases by completing the Pick an Option task. Figure out which is the better deal. Then, choose which deal you would take, and explain why you made that choice.
___ 5.	Pick a situation where you or your family uses credit. Complete Challenge 2-A: DECIDE The Best Deal for You.



TAKING IT HOME

Compare phones and calling plans for your family. Gather information about at least two local phone plans provided by different companies. Find out what information you need to provide to the phone companies when you apply for the phone plans.

Use the DECIDE decision-making process learned in Module 1 to establish criteria for selecting a phone plan based on your current needs and financial situation. Compare the terms of each plan, and consider the advantages and disadvantages of each plan. Decide which option best meets your criteria.



FURTHER STUDY

Bring in car ads that include leasing options and financing information. Calculate out the cost of vehicles, comparing leasing versus purchasing.

Discuss the financial issues (good and bad) related to leasing a vehicle. Who would be the best candidate to lease a car? When might it make sense to lease a car versus purchasing a car?

Task: Pick an Option

NAME:

DATE:

Directions:

Jesse did the math on a laptop deal and realized the bargain wasn't a bargain at all. See if you can spot a bargain in the offers below. For each purchase, check the option that you think would be the best credit deal.

*Best Deal	Option	Purchase Price	Monthly Payments	Total Interest	Total Cost
Purchase a Computer					
☐	Store Financing: 24 monthly payments at 11.9% APR	\$1,400	\$	\$	\$
☐	Credit Card: 36 monthly payments at 15.9% APR	\$1,400	\$	\$	\$
Purchase a Stereo System					
☐	Store Financing: 12 monthly payments at 13.5% APR	\$800	\$	\$	\$
☐	Credit Card: 24 monthly payments at 18% APR	\$800	\$	\$	\$
Purchase a Car					
☐	Car A: 7% APR for 60 months	\$20,000	\$	\$	\$
☐	Car B: 3.9% APR for 30 months	\$23,000	\$	\$	\$
Purchase a Big Screen TV					
☐	Store Financing: no payments for three months, but monthly interest charges start immediately at 10% APR; then six months of payments.	\$1,900	\$	\$	\$
☐	Credit Union: 11% APR for 12 months	\$1,900	\$	\$	\$
Purchase a Truck					
☐	Option A: \$1,500 rebate; 2.9% APR for 48 months	\$25,000	\$	\$	\$
☐	Option B: \$0 rebate; 0.9% APR for 36 months	\$25,000	\$	\$	\$

Task: Pick an Option

NAME: **KEY** [Calculation Notes are available in a separate Excel worksheet file.]

DATE:

Directions: [Note to teacher: Students will only check the left column when they complete this activity early in the lesson (Learning Task 1). Later in the lesson they will fill in the remaining columns to calculate the total costs (Learning Task 4).]

Jesse did the math on a laptop deal and realized the bargain wasn't a bargain at all. See if you can spot a bargain in the offers below. For each purchase, check the option that you think would be the best credit deal.

*[Student choices will vary depending on whether decisions were based on the monthly payment amount or the total cost for each item. This is an opportunity to point out that people might decide that a lower rather than larger monthly payment fits better with a spending plan when the total cost difference is nominal.]

*Best Deal	Option	Purchase Price	Monthly Payments	Total Interest	Total Cost
Purchase a Computer					
☐	Store Financing: 24 monthly payments at 11.9% APR	\$1,400	\$65.84	\$180.10	\$1,580.10
☐	Credit Card: 36 monthly payments at 15.9% APR	\$1,400	\$49.15	\$369.43	\$1,769.43
Purchase a Stereo System					
☐	Store Financing: 12 monthly payments at 13.5% APR	\$800	\$71.64	\$59.70	\$859.70
☐	Credit Card: 24 monthly payments at 18% APR	\$800	\$39.94	\$158.54	\$958.54
Purchase a Car					
☐	Car A: 7% APR for 60 months	\$20,000	\$396.02	\$3,761.44	\$23,761.44
☐	Car B: 3.9% APR for 30 months	\$23,000	\$805.89	\$1,176.79	\$24,176.79
Purchase a Big Screen TV					
☐	Store Financing: no payments for three months, but monthly interest charges start immediately at 10% APR; then six months of payments.	\$1,900 +\$47.50 interest applied over the first three months	\$334.12 after three months on \$1,947.50 principal	\$47.50 +\$57.19 \$104.69	\$1,900.00 + 104.69 \$2,004.69
☐	Credit Union: 11% APR for 12 months	\$1,900	\$167.93	\$115.10	\$2,015.10
Purchase a Truck					
☐	Option A: \$1,500 rebate; 2.9% APR for 48 months	\$25,000 minus \$1,500 cash back	\$552.25 \$25,000 borrowed 48 months	\$1,508.19	\$25,000.00 +1,508.19 -\$1,500.00 \$25,008.19
☐	Option B: \$0 rebate; 0.9% APR for 36 months	\$25,000	\$704.12	\$348.39	\$25,348.39

Activity 2.3: Simply Tell the Total

NAME:

DATE:

Directions:

Use the simple interest formula to calculate the interest and the total amount to be repaid in one lump sum for the purchases below.

Simple Interest Rate Formula

$$I = P \times R \times T \text{ where}$$

I = interest

P = principal

R = interest rate (decimal number)

T = time (number of years)

Description	Principal (P)	Interest Rate (R)	Time in Years (T)	Interest (I)	Total Amount to be Repaid
Cash loan	\$100	40.0%	1/2 year	\$20 ($100 \times .4 \times .5$)	\$120 ($\$100 + \20)
Big-screen TV	\$700	7.0%	2 years	\$	\$
College loan	\$12,000	3.5%	15 years	\$	\$

Activity 2.3: Simply Tell the Total

NAME: KEY

DATE:

Directions:

Use the simple interest formula to calculate the interest and the total amount to be repaid in one lump sum for the purchases below.

Simple Interest Rate Formula

$$I = P \times R \times T \text{ where}$$

I = interest

P = principal

R = interest rate (decimal number)

T = time (number of years)

Description	Principal (P)	Interest Rate (R)	Time in Years (T)	Interest (I)	Total Amount to be Repaid
Cash loan	\$100	40.0%	1/2 year	\$20 ($100 \times .4 \times .5$)	\$120 ($\$100 + \20)
Big-screen TV	\$700	7.0%	2 years	\$98 ($\$700 \times .07 \times 2$)	\$798 ($\$700 + \98)
College loan	\$12,000	3.5%	15 years	\$6,300 ($\$12,000 \times .035 \times 15$)	\$18,300 ($\$12,000 + \$6,300$)

Activity 2.4: What is the Average Payment?

NAME:

DATE:

Directions:

Figure out the average monthly payments for two purchases made with loans using the amortization calculation formula.

Alternatives: Do your own amortization calculations using spreadsheet software* or generate an amortization payment chart by using an online financial calculator.

Amortization Calculation Formula

$$A = P \frac{r(1+r)^n}{(1+r)^n - 1}$$

A = payment amount

P (aka pv) = principal (the present value of the loan)

r = interest rate, per period (decimal number)

n = total number of payments over which the loan will be repaid

Description	Present Value of Loan (pv)	Annual Interest Rate (APR)	Interest Rate Per Period (r)	Number of Payments (n)	Payment Amount (A)	Total Amount to be Repaid
Cash Loan	\$100	40.0%	40% / 12 = \$3.33%	6	\$18.66	\$18.66 x 6 = \$111.96
Big-Screen TV	\$700	7.0%	7% / 12 = \$	24	\$	\$
College Loan	\$12,000	3.5%	3.5% / 12 = \$	180	\$	\$

*Microsoft Excel PMT Function: =PMT(r,n,-pv)

PMT Function example for cash loan: =PMT(.4/12,6,-100)

Activity 2.4: What is the Average Payment?

NAME: **KEY**

DATE:

Directions:

Figure out the average monthly payments for two purchases made with loans using the amortization calculation formula.

Alternatives: Do your own amortization calculations using spreadsheet software* or generate an amortization payment chart by using an online financial calculator**.

Amortization Calculation Formula

$$A = P \frac{r(1+r)^n}{(1+r)^n - 1}$$

A = payment amount

P (aka **pv**) = principal (the present value of the loan)

r = interest rate, per period (decimal number)

n = total number of payments over which the loan will be repaid

Description	Present Value of Loan (pv)	Annual Interest Rate (APR)	Interest Rate Per Period (r)	Number of Payments (n)	Payment Amount (A)	Total Amount to be Repaid
Cash Loan	\$100	40.0%	40% / 12 = 3.33%	6	\$18.66	\$18.66 x 6 = \$111.99
Big-Screen TV	\$700	7.0%	7% / 12 = .58%	24	\$31.34	\$31.34 x 24 = \$752.18
College Loan	\$12,000	3.5%	3.5% / 12 = .29%	180	\$85.79	\$85.79 x 180 = \$15,441.46

*Microsoft Excel PMT Function: =PMT(r,n,-pv)

PMT Function example for cash loan: =PMT(.4/12,6,-100)

**Search online for an “amortization calculator” to calculate the average monthly payment and generate an amortization table. Encourage the students to study the full amortization chart to examine how the interest paid per month decreases as the principal is paid.

Activity 2.5: Choose the Best Deal

NAME:

DATE:

Directions:

Jesse has his eye on buying a used truck. Of the three options below, which do you think is the better deal if he borrows \$5,000 cash to be repaid in one lump sum?

- ☐ 7 percent APR payable in two years
- ☐ 5.5 percent APR payable in three years
- ☐ 4.75 percent APR payable in four years

Activity 2.5: Choose the Best Deal

NAME: **KEY**

DATE:

Directions:

Jesse has his eye on buying a used truck. Of the three options below, which do you think is the better deal if he borrows \$5,000 cash to be repaid in one lump sum?

Simple interest formula (Principal x Rate x Time in Years)



7 percent APR payable in two years

$\$5,000 \times .07 \times 2 = \700 (interest)

$\$5,000$ principal + $\$700$ interest = $\$5,700$ total to be repaid in two years



5.5 percent APR payable in three years

$\$5,000 \times .055 \times 3 = \825 (interest)

$\$5,000$ principal + $\$825$ interest = $\$5,825$ total to be repaid in three years



4.75 percent APR payable in four years

$\$5,000 \times .0475 \times 4 = \950 (interest)

$\$5,000$ principal + $\$950$ interest = $\$5,950$ total to be repaid in four years

Challenge 2-A: Decide the Best Deal for You

NAME:

DATE:

Directions:

As you work through the lessons and activities in NEFE's High School Financial Planning Program, you will complete challenge activities that can be compiled into a personal financial planning portfolio. For this challenge task, use what you have learned in **Lesson 1-3: Decisions** and **Lesson 2-2: Credit Costs** to make a thoughtful decision about using credit.

Directions:

- ☐ 1. Apply what you have learned about credit costs and criterion-based decision making as you complete this challenge. Preview the criteria listed in the Scoring Guide to plan your work.
- ☐ 2. Pick a situation where you or your family currently use or expect to use credit in the near future. For example, this might be a phone plan, car loan, school loan, or apartment rental. Gather information from two to three different businesses that provide credit for the situation. Use the DECIDE process to select the best option for your (or your family's) criteria.
- ☐ 3. Use the chart below or create a separate document to summarize your decision-making process. Review the six DECIDE action steps to guide your work. Your actions should take into consideration your current circumstances and values.
- ☐ 3. Self-assess your work using the Scoring Guide. Optional: Ask a classmate or family member to peer assess your work using the Scoring Guide.

	DECIDE Steps	My Situation		
1	Define your goal.			
2	Establish your criteria.			
3	Choose three good options.			
4	Identify the pros and cons of the options. Calculate costs for each option.			
5	Decide what's best.			
6	Evaluate the results.			

Challenge 2-A: Decide the Best Deal for You

NAME: _____

DATE: _____

Required Criteria		Status		
Content				
1.	In one sentence you state what you want to achieve as a result of the decision-making process.	acceptable	not acceptable	
2.	Outcome involves a decision about using credit.	acceptable	not acceptable	
3.	You justify how the decision and outcome relates to your current circumstances and values.	acceptable	not acceptable	
4.	Summary lists at least three criteria for an acceptable outcome, including the features you absolutely must have as well as features you would like to have or will not accept such as a specific payment limit.	acceptable	not acceptable	
Option Status Rating Key: "A" = Acceptable / "NA" = Not Acceptable		Option A	Option B	Option C
5.	Summary includes details about three possible options, including specific borrowing terms and costs.			
6.	You devise a way to illustrate how well each option matches your criteria.			
7.	You point out the solution that you have chosen.	acceptable	not acceptable	
8.	You justify why the chosen option was selected.	acceptable	not acceptable	
9.	Your choice is logical based on the known circumstances, stated criteria, and potential to achieve the desired outcome.	acceptable	not acceptable	
10.	You summarize what you do and don't like about your choice and justify any modifications that were made in the purpose, criteria, or solutions.	acceptable	not acceptable	
General				
11.	Content is clearly stated with distinct detail.	acceptable	not acceptable	
12.	Documentation is neat and easy to read.	acceptable	not acceptable	
13.	Calculations are accurate.	acceptable	not acceptable	
14.	Information about each option is accurate or can be verified.	acceptable	not acceptable	

Feedback: _____

Score: _____ / _____