Unit E: Understanding the Use of Money and Obtaining Credit

Lesson 2: Understanding the Concept of Borrowing Money

Student Learning Objectives: Instruction in this lesson should result in students achieving the following objectives:

1. Discuss the importance of loans.

2. Explain the uses for loans.

3. Understand what a lender looks for in a borrower.

4. Understand good characteristics of a lender.

5. Calculate the cost of credit.

6. Understand loan repayment.

Recommended Teaching Time: 4 hours.

Recommended Resources: The following resources may be useful in teaching this lesson:

http://mortgage-x.com/library/loans.htm

Decisions & Dollars. Alexandria, Virginia: The Council for Agriculture Education, 1993. (Curriculum Binder, Unit I)

List of Equipment, Tools, Supplies, and Facilities:

Writing surface
PowerPoint Projector
PowerPoint Slides
Copies of LS: 2-1
Copies of WS: 2-1

Terms:

Collateral	Lump Sum Payment
Co-signer	Operating Loans
Compound Interest	Payoff
Fixed Cost	Periodic Payments
Goal	Principal
Institutional Credit	Rate
Insurance	Short-Term Credit
Intermediate-Term Credit	Simple Interest
Lender	Time
Long-Term Credit	Variable Cost

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Interest Approach: Lead students in a discussion regarding borrowing items. Begin by asking this question: "Have you ever borrowed something from a friend or family member?" Allow several students to answer then ask them what they do with the item when they are finished using it. Are the items always returned to their owners immediately after being used? Why or why not? Continue the discussion by asking "Have you ever loaned something to a friend or family member?" then ask, "What do you do if you have loaned something to a friend and they didn't' return it, then they asked to borrow something else?" Help students realize that in order to loan something important to another person, that person must be trustworthy. In other words, the person loaning wants to know that the borrower will return the item. Discuss the fact that borrowing items is similar to borrowing money.

Summary of Content and Teaching Strategies

Objective 1: Discuss the importance of loans.

Anticipated Problem: What is the importance of loans?

PowerPoint Slide #3

  I. Loans are obtained by individuals or business owners because they have a specific ***goal*** in mind. Without the option to receive a loan, the individual or business owner would not be able to achieve the goal at the desired time.

PowerPoint Slide #4

  A. A goal is an end or purpose that one strives to attain.

    1. Setting goals is important. When an individual or business has set goals, they have something specific to try to achieve. Goals also help a person or business become more efficient or better at the tasks they complete.

    2. A goal for obtaining a loan may be as large as starting an aquaculture business or as small as purchasing more baskets to harvest apples.

PowerPoint Slide #5

  B. One must consider if they need a loan based upon the goal that has been set.

    1. The cost of attaining the goal must be calculated. A list of materials and items needed to attain the goal should be developed. Then, a price for each item should be estimated.

    2. The current financial status of the business must be reviewed. If the business has enough cash on hand to purchase the items needed to attain the goal, then no loan is needed. Additionally, other capital items on hand should be considered. This may include animals or grain that could be sold in exchange for cash or materials needed to achieve the goal.

    3. If it is determined that the business needs a loan, then a bank or other financial institution should be contacted to begin the borrowing process.

PowerPoint Slide #6

    4. For example, if an orchard business would like to begin a beekeeping enterprise, a list of the materials with estimated costs should be created.

Item	Quantity	Price per Unit	Total Cost
bee hives	3	10000 AFS	30000 AFS
bee swarm trap	1	1750 AFS	1750 AFS
smoker	1	5000 AFS	5000 AFS
protective clothing	1	15000 AFS	15000 AFS
honey processing equipment	1	10000 AFS	10000 AFS
honey containers	20	250 AFS	5000 AFS
TOTAL			66750 AFS

The orchard business only has 5000 AFS in savings; therefore, the business will need a loan to begin the beekeeping enterprise.

Objective 2: Explain the uses for loans.

Anticipated Problem: How can loans be used for different purposes?

PowerPoint Slide #7

II. Loans, or credit, can be used for many different purposes. Loans can be obtained for various amounts and length of the loan period. These loans may be given by individuals or institutions.

   A. Most often, credit is obtained in order to establish a business or to assist a business in growing or adding another enterprise.

PowerPoint Slide #8

      1. ***Short-term credit*** is usually paid back within one year.

        a. Usually used to purchase small items.

      2. ***Intermediate-term credit*** is usually paid back in one to five years.

      3. ***Long-term credit*** usually ranges from five to thirty years.

        a. Used to purchase land or homes.

PowerPoint Slide #9

   B. ***Operating loans*** are used to assist agribusiness owners with annual expenses.

      1. Operating loans are paid back within one year or less and can be used for different types of expenses.

        a. ***Fixed costs*** are those costs that are constant regardless of level of production.

          i. Examples of fixed costs include interest paid on existing loans and taxes.

          ii. Fixed costs per unit of production decreases as more product is produced.

        b. ***Variable costs*** are those costs that change as production levels change.

          i. Examples of variable costs include fertilizer, seed, feed, fuel, and hired labor.

          ii. Total variable costs increase as production increases.

PowerPoint Slide #10

   C. ***Collateral*** are the assets that are pledged to secure a loan. In the event that the loan cannot be paid by the borrower, the collateral may be sold to pay the loan.

D.   If collateral is not available a *cosigner*, a person who shares responsibility for the loan if the borrower is unable to pay, may be used.

To help students master this objective, use the PowerPoint Presentation. During the presentation, engage students in the discussion by asking them to name examples. A few questions that might be asked include:

-What item could be purchased with short-term credit?

-What item could be purchased with intermediate-term credit?

-If a sheep farmer wanted to expand his herd from 3 ewes to 10 ewes, do you think he would take out a loan? Why? What type of loan might he take out? What would be used for collateral?

Objective 3: Understand what a lender looks for in a borrower.

Anticipated Problem: What does a lender look for in a borrower?

PowerPoint Slide #11

III.   A *lender* is an institution or individual who loans money. *Institutional credit* is obtained from organizations in the business of loaning money

   A.   A borrower must be of good character. A person with good character is usually trustworthy and will have the responsibility to payback the loan at the appropriate date.

      1.   Character refers to the reputation of the borrower.

      2.   Sometimes lenders will ask for character references.

      3.   If there are difficulties in paying bills in a timely manner, it is best to contact the lender to discuss alternative plans for repayment.

PowerPoint Slide #12

   B.   The financial position of the borrower is important.

      1.   Financial position refers to overall economic position.

      2.   Lenders will likely ask to see a current balance sheet and other documents to determine financial standing.

PowerPoint Slide #13

   C.   A borrower must prove the capacity to repay the loan.

      1.   A monthly budget or cash flow statement is often viewed by the lender.

      2.   The lender wants to know that there is enough income to cover all of the monthly financial obligations.

PowerPoint Slide #14

   D.   Security of the loan is another consideration.

      1.   The lending institution must know that if the loan goes unpaid they will be able to recover their money.

      2.   Collateral is property that will be taken if repayment is not made.

      3.   Land and other long-term assets usually act as collateral for loans.

*****To help students master this objective, use the PowerPoint Presentation. Ask
students to complete LS 2-1 then discuss their answers to reinforce the information.**

Objective 4: Understand good characteristics of a lender.

Anticipated Problem: What are good characteristics of a lender?

PowerPoint Slide #15

IV.   A borrower must feel comfortable with and trust the lender.

    A.   A lender should be of good character.

        1.   A question to consider is: "Does this lender have a good reputation in the community?"

PowerPoint Slide #16

    B.   Lending policies should be examined.

        1.   Is *insurance* required?

           a.   An insurance policy is purchased to protect important items. Depending on the terms of the policy, the items will be replaced if they are stolen or destroyed by a natural disaster or accident. The replacement (or money to purchase a new item) will be provided by the insurance company.

        2.   Are business hours of the institution convenient?

           a.   If a loan is obtained from an institution, it is important that the borrower can transact business with that institution during the time that they are open for business.

PowerPoint Slide #17

    C.   Cost of the loan is another consideration.

        1.   Various institutions and individuals may differ on the interest they charge.

        2.   Fees and charges vary by institution.

           a.   Some institutions charge extra fees for repaying the loan prior to the due date and other items.

*****To help students master this objective, use the PowerPoint Presentation. Ask
students to complete LS 2-1 then discuss their answers to reinforce the information.**

Objective 5: Explain how to calculate the cost of credit.

Anticipated Problem: How is the cost of credit calculated?

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V.   Credit is not often given without cost. The rate and the type of interest charged on the loan will differ among institutions. The key to a successful and positive experience for the lender and the borrower is that both parties are fully aware and agree on the rate and type of interest charged.

    A.   The annual percentage rate (APR) is the interest charge on the loan per year.

PowerPoint Slide #19

    B.   Two major ways of calculating interest are simple and compound.

        1.   The *simple interest* method is calculated by using the original principal for the entire time period (in years) at the determined rate.

a. The formula for calculating simple interest is simple interest = principal × rate × time.

    i. The formula for calculating the total amount to be paid back is: $FV = PV + n(PV \times i)$, where FV = future value, PV = present value, n = time, and i = interest rate.

b. The ***principal*** is the total dollar amount borrowed.

c. The ***rate*** is interest rate or percentage charged for using the principal.

d. ***Time*** is the number of years the money is borrowed.

e. Example problem: Find the interest amount on a loan of 15000 AFS at 8% simple interest for 2 years.

    i. Answer: simple interest = principal × rate × time

$$= 15000 \text{ AFS} \times .08 \times 2$$
$$= 1200 \times 2$$
$$= 2400 \text{ AFS}$$

2. The ***compound interest*** method is based on the changing principal balance for the length of time the money was borrowed.

a. This method results in higher payments.

b. This method accrues "interest on interest" which results in the principal increasing over time. Interest is paid more than once during a term.

c. Money can be compounded annually, semiannually, monthly, or daily.

d. The formula for determining the future value on compound interest is:

$FV = PV \times (1 + i)^n$, where FV = future value, PV = present value, n = time, and i = interest rate

e. Example problem: Find the total amount to be paid back on a 15000 AFS loan at 8% compounded interest rate for 2 years.

    i. Answer: $FV = PV \times (1 + i)^n$

$$= 15000 \times (1 + .08)^2$$
$$= 15000 \times (1.08)^2$$
$$= 15000 \times (1.166)$$
$$= 17490 \text{ AFS}$$

        f. Example problem: Find the amount of interest to be paid on the 15000 AFS loan at 8% compounded interest rate for 2 years.

           i. Answer: $FV = PV \times (1 + i)^n$

$$= 15000 \times (1 + .08)^2$$
$$= 15000 \times (1.08)^2$$
$$= 15000 \times (1.166)$$
$$= 17490 \text{ AFS}$$
$$= 17490 - 15000$$
$$= 2490 \text{ AFS}$$

***To help students master this objective, use the PowerPoint Presentation. Assist students in completing WS 2-1.**

Objective 6: Understand loan repayment.

***Anticipated Problem:** How can loans be repaid?*

PowerPoint Slide #24

VI. When borrowing money, it is essential that the borrower repay the full amount of the loan and any interest or fees the loan requires.
    A. The due date for each payment and the amount of the payment are often dependent upon the type of loan. Additionally, they are determined by the lender and agreed upon by the borrower.

PowerPoint Slide #25

        1. ***Periodic payments*** are a method of repayment where payments are made at equal intervals over the length of the loan period.
          a. Typical periodic payments are made on a monthly, quarterly (4 times per year), or annual basis.
          b. The total amount to be repaid is calculated then divided by the number of payments to determine the amount to be paid at each payment.
          c. Usually, this type of payment method is used for intermediate or long-term loans and loans with a large principal amount.

PowerPoint Slide #26

        2. A ***lump sum payment*** is a repayment method that is made at one time to repay the entire sum of principal and interest in a loan.
          a. The total amount to be repaid is calculated then paid all at once by the borrower at the end of the loan period.
          b. This type of payment method is typically used with short-term loans and operating loans.

PowerPoint Slide #27

    B. Some individuals or agribusinesses that borrow money choose to repay the loan before it is due. This may be a result of earning more profit or money than they expected.
        1. It is first important to consider the terms of the loan to ensure the ***payoff*** is worth any fees that might be incurred. The payoff is the total repayment of a loan.
        2. A significant amount of money can be saved by an early payoff.
          a. Because the principal will not be used for the entire length of the anticipated loan period, the full amount of calculated interest will not need to be paid.

To help students master this objective, use the PowerPoint Presentation. As you are discussing the information have students repeat short sayings after you deliver the information. For example, you would say "The due date for each payment and the amount of the payment are often dependent upon the type of loan." (Ask the class) "The due date for each payment and the amount of the payment are often dependent upon what?" (Students respond) "The type of loan."

Review/Summary:
For Objectives 1-4 and 6, divide students into 4 groups and assign one objective to each group. Have students write a song using the information provided in their assigned objective. To make this activity easier, you may want to provide a list of familiar song tunes. Students can write their song to a selected familiar tune. When students are finished developing these songs, they should present them to the class. To review Objective 5, develop sample problems for students to complete. These problems may be completed by students individually or as a group.

Application:
Ask students to interview someone who has experience with being either a borrower or lender. Encourage students to put the example questions in their own words and add their own questions to those that are provided.

Evaluation:
A sample written test is attached.

Answers to Test:

Part One: Matching

1 = f, 2 = b, 3 = g, 4 = c, 5 = d, 6 = e, 7 = a, 8 = h

Part Two: Completion

1 = character

2 = repayment capacity

3 = variable costs

4 = annual percentage rate

5 = insurance

Part Three: Short Answer

1. $FV = PV \times (1 + i)^n$
    $= 12500 \times (1 + .05)^5$ = 15950 AFS (total repayment amount)
    $= 12500 \times (1.05)^5$ = 15950 - 12500
    $= 12500 \times (1.276)$ = 3450 AFS paid in interest

Name_____

Understanding the Concept
of Borrowing Money

Instructions. Using the equations below, answer the following questions.

Simple Interest   simple interest = principal × rate × time.

Simple Interest $FV = PV + n(PV \times i)$

Compound Interest $FV = PV \times (1 + i)^n$

1. You borrowed 50000 AFS at 8% interest and the bank charges simple interest. How much interest will you pay if you pay the loan off in 3 years?

2. How much interest would be paid if the bank charged 8% compound interest?

3. Your friend needs a short-term loan for 6 months. You loan him 100 AFS and charge 6% simple interest. How much money will your friend repay you?

WS: 2-1   KEY   Name_____

Understanding the Concept
of Borrowing Money

Instructions. Using the equations below, answer the following questions.

Simple Interest	simple interest = principal × rate × time
Simple Interest	$FV = PV + n(PV \times i)$
Compound Interest	$FV = PV \times (1 + i)^n$

1. You borrowed 50000 AFS at 8% interest and the bank charges simple interest. How much interest will you pay if you pay the loan off in 3 years?
   $FV = PV + n(PV \times i)$
   =50000+3(50000x.08)   →=62000 AFS (total repayment amount)
   =50000+3(4000)   =62000 - 50000
   =50000+12000   =12000 AFS paid in interest
                     OR
   Simple interest = principal × rate × time
              = 50000 x .08 x 3
              =12000 AFS paid in interest

2. How much interest would be paid if the bank charged 8% compound interest?
   $FV = PV \times (1 + i)^n$
   = 50000 × (1 + .08)³   = 62950 AFS (total repayment amount)
   = 50000 × (1.08)³   = 62950 – 50000
   = 50000 × (1.259)   = 12950 AFS paid in interest

3. Your friend needs a short-term loan for 6 months. You loan him 100 AFS and charge 6% simple interest. How much money will your friend repay you?
   The equations use n as time in terms of years; for any amount of time that consists of a partial year, convert the number of months into a decimal. For example in this problem, 6 months divided by 12 months equals 0.5. Use 0.5 as the length of the time for this problem.
   $FV = PV + n(PV \times i)$
   =100 + 0.5(100 x .06)
   =100 + 0.5(6)
   =100 + 3
   =103 AFS

Test   Name_____

Test
Understanding the Concept of Borrowing Money

Part One: Matching

Instructions. Match the term with the correct response. Write the letter of the term by the definition.

a. principal
b. simple interest
c. insurance
d. fixed cost

e. variable cost
f. lender
g. collateral
h. goal

_____ 1. An institution or individual that provides money and is paid interest in return.

_____ 2. Interest paid only for the number of days money was used.

_____ 3. Item pledged to secure a loan.

_____ 4. Purchased to protect important items.

_____ 5. Costs that are constant regardless of level of production.

_____ 6. Costs that change as production levels change.

_____ 7. Total dollar amount borrowed.

_____ 8. An end or purpose that one strives to attain.

Part Two: Completion

Instructions. Provide the word or words to complete the following statements.

1. _____ refers to your reputation.

2. A monthly budget or cash flow statement is often used by a lender to determine your

    _____ _____.

3. _____ _____ increase as production increases.

4. The interest charge for a loan is quoted as the _____ _____

    _____.

5. _____ replaces items if they are stolen or destroyed by a natural

    disaster or accident.

Part Three: Short Answer

Instructions. Use complete sentences and correct spelling to provide the information below.

1. If you take a 12500 AFS loan for 5 years at 5% compound interest, how much interest would you pay?

Name_____

Understanding the Concept
of Borrowing Money

Instructions. Interview another person who has either given a loan to someone or who has obtained a loan. Use the questions below as a guideline for the interview.

Name of the person that is interviewed_____

Job_____

1. What experience have you had with loans?

2. From your perspective and experience, what are the positive aspects of borrowing/lending money?

3. From your perspective and experience, what are the negative aspects or risks of borrowing/lending money?

4. What should a borrower/lender do to minimize the risk associated with borrowing/lending money?

5. What steps were taken in the process of borrowing/lending money?

6. As a younger person, is there anything I should do now to prepare for borrowing money someday?