The Economics of Credit Cards
Lesson Plan

Subject Areas: Social Studies and Math

Grade Levels: 8–12 (ages 13–18)

Time: At least one 50-minute class period; time outside of class as necessary

Lesson Objectives:
Students will:
• Develop an understanding of the economics of using credit to purchase goods and services,
• Develop an understanding of both simple and compound interest.
• Make conclusions based on data presented in tables and plots (graphs).
• Explain their findings in writing and visual slide shows.

Standards:
National Council for the Social Studies Standards¹:
The Ten Themes of Social Studies
Theme 7: Production, Distribution, and Consumption
• Social studies programs should include experiences that provide for the study of how people organize for the production, distribution, and consumption of goods and services.

Common Core State Standards²:
Common Core State Standards for Mathematics:
Mathematical Practices
• Reason abstractly and quantitatively.
• Use appropriate tools strategically.

Measurement and Data
• Represent and interpret data.

College and Career Readiness Anchor Standards for Writing:
Standard 6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
Overview:
Credit cards have revolutionized the way millions of consumers purchase goods and services. What are the benefits and costs associated with this trend, and how might they affect the financial well-being of students and their families? Students need to understand the economics of using credit to purchase goods and services—how simple and compound interest affect the costs of purchasing with credit.

In this lesson, students will use InspireData to examine different credit cards and the effects of changes in interest rates and principal on the amount of money owed. Students will also be encouraged to evaluate whether the costs of credit cards outweigh their benefits and record their observations and ideas in annotated slide shows.

Preparation:
- This lesson requires the InspireData® software application published by Inspiration Software, Inc. You can download a 30-day trial at http://www.inspiration.com/InspireData.

Lesson:
1. Tell students that in today’s lesson you will be discussing credit cards as a way to purchase goods and services and if the benefits of using them outweigh their costs. Start by having students brainstorm the pros and cons of using credit cards to make purchases. Discuss
interest rates and fees as factors that can contribute to the cost of using them. Ask if they know how much credit cards can really cost consumers who use them, and if they think those potential costs outweigh the benefits.

2. Have students research the history of credit cards to gain a better understanding of how they originated, how they work, and who profits from them. An excellent starting point is PBS’s website, which supports the PBS Frontline episode entitled “The Secret History of the Credit Card” at http://www.pbs.org/wgbh/pages/frontline/shows/credit. The site also includes “A Credit Card Quiz,” a “More to Explore…” section that includes details such as how credit cards are used in other countries, and a link to a related New York Times report. If desired, an Inspiration® diagram can be used to record student findings.

3. Lead a discussion in which you explain the difference between simple and compound interest and how credit card companies calculate interest. Simple interest is figured once. For example, if you loan $100 to a friend and charge her 1% interest at the end of the month ($1), that is simple interest. With compound interest, the interest becomes part of the principal. If you loan that same friend $100 but charge her 1% per day until the end of the month, after the first day she would owe you $101, after the second day $102.01, after the third day $103.03, and so on. If this does not seem significant to students, point out that credit cards can have compounding interest rates of up to 20% or more.

4. Tell students you will now compare credit card plans to see how varying interest rates affect the cost of using them. Open InspireData’s Credit Cards database: InspireDataStarter>Databases>Social Studies>Credit Cards.

5. Show students the table in the Credit Card A tab and explain the table notes to give context to the data. Select the Monthly Interest Rate field (set up as a formula field), making sure students understand the applied formula and how the results are calculated. Repeat this analysis for the formula field Total Amount Owed. Inform students that this is a very simplified look at credit card debt. Most credit card companies will also add on late fees for missed payments. Debt can add up quickly!

© 2011 Inspiration Software, Inc. You may use and modify this lesson plan for any non-commercial, instructional use.
6. Click the Credit Card B tab, and point out the difference in the interest rate. Click the Comparing A and B tab, and ask students how this table is different from the other two.

7. Click back on the Credit Card A tab and demonstrate for students how to switch to Plot View. Show students how to plots with notes, explaining the data for the table in the Credit Card A tab. Your demonstration should include how to select plot types via the buttons on the Toolbar, especially axis plots. For each plot, students should use the Notes area to record their analysis and then create a slide with the Capture Slide button in the Slide Sorter.

8. Demonstrate how to switch back to Table View and point out the Possible Investigations in the table notes that students will be exploring today, including:
• What does the plot show about both Lucinda’s and James’s debt over the course of a year?
• How much more money did James borrow than Lucinda?
• What is the difference in how much James owes at the end of the year compared to Lucinda?

9. Divide students into as many groups as there are computers available. Have the groups switch to Plot View and create slides of plots with notes explaining the data for the four tables. If you would like to give students more detailed directions, add that they should complete steps such as:
   • Use the Axis plot button to create axis plots including “# of Months Without Payments” vs. “Total Amount Owed,” and label the data with “Total amount Owed.”
   • Add a title to the plot (Plot>Plot Title).
   • Use the Notes area to record answers to each of the Possible Investigations listed in the table notes, plus comments on the following additional questions:
     • Why does James have more debt at the end of the year even though Lucinda charged the same amount on her credit card?
     • What is the difference between their debt levels, and how is this difference changing over time?
     • What impact does compound interest have on what is owed at the end of a year?
     • What did students learn while researching how credit cards work?
   • Capture slides of the plots with notes.

10. Convene as a class, and discuss plots and observations. Possible questions to discuss as a class include:
   • What did the students learn about interest rates on credit cards?
   • Why is compound interest more menacing than simple interest?
   • What would they consider when deciding whether to get a credit card?
   • What responsibilities do consumers have before they decide to use credit cards?
   • Should the government provide more regulations to try to protect consumers from the dangers of credit cards and/or help consumers that incur serious debt with them?
   • What would be the possible advantages and disadvantages of this?
   • How might the responsible or irresponsible use of credit cards affect individual, family, and societal well-being?
   • Why is it important to carefully read the details about credit card interest rates and fees?
Adaptations/Extensions:

- Have students research the new credit card government regulations. Are the regulations sufficient, or do they go too far? Should credit card interest rates and fees be made more obvious when consumers are deciding whether they want to use them?
- Additional economic concepts can be introduced into the lesson, such as opportunity cost. One way to do so would be to have students examine the difference in the amount of money they might have (or owe) if money was invested at different interest rates such as 5% and 10% rather than borrowed with credit cards.
- For beginning students, show students how to access the Credit Cards example database for more examples. InspireData Starter>Learn to Use>Example Databases>Credit Cards.
- Refer students to the InspireData handouts for help with plotting and analysis (Help>Documentation>Handouts).
- This lesson can be extended by having students change the initial amount charged and interest rates to explore additional credit card plans or spending habits.
- Expand this lesson for advanced students by having them change the formula fields to reflect a 0% interest credit card that jumps to a 30% interest rate after six months. Compare this credit card to the cards described in this lesson.

---

1 © Copyright 2010. The Themes of Social Studies. National Council for the Social Studies. All rights reserved. Learn more online at http://www.socialstudies.org/standards.