



IGNITE MY FUTURE

LESSON TITLE

Keep My Interest

Guiding Question: Is Life Fair?

Ignite Curiosity

- How could you make a large, important purchase like a computer if you don't have the money for it right away?
- What does *interest* mean when we are talking about banks and money?
- Why do banks charge interest?
- How can credit card debt affect a community?
- Why are some people more likely than others to get into credit card debt?

SUBJECTS

Social Studies
English/Language Arts
Math

COMPUTATIONAL THINKING PRACTICE

Constructing Explanations
and Designing Solutions

COMPUTATIONAL THINKING STRATEGY

Find Patterns

MATERIALS

[Profiles in Credit](#)
student handout

[Interest Rates Graph](#)
student capture sheet

[Financial Plan](#)
student capture sheet

Computers with Internet access

In this lesson, students will think like computers to determine the wisest way to use credit cards. In **THINK**, students will examine questions about interest and develop an understanding of how a person's background and income impact credit card interest rates. They will work through a series of individual profiles to understand how each individual's background and interaction with credit impact his or her future prospects. In **SOLVE**, students will use the computational thinking strategy of finding patterns to identify trends in consumer credit data collected by the [U.S. Federal Reserve System](#). They will use this data to create a graph demonstrating the interest rate trends and fluctuations of the past five years. This graph will help students identify patterns in credit. In **CREATE**, students will act as financial advisers who are advising a client who would like to make a \$2,500 computer purchase within the next month. In **CONNECT**, students will gain an understanding of how credit cards impact their lives and the lives of those around them. They will come to understand basic principles of establishing credit and smart strategies for making short-term and long-term purchases. They will also understand some of the inequities involved in credit and how it can be more difficult for some individuals to achieve financial stability than others.

Students will be able to:

- **Understand** patterns and common features related to interest rates and debt,
- **Create** graphs to synthesize and present interest rate data, and
- **Apply** the patterns in data they have identified to support recommendations.



Students will examine questions about interest and develop an understanding of how a person's background and income impact credit card interest rates.

1 Read the following scenario to students:

Imagine you are a financial adviser with a new client. This client is 18 years old and wants to buy a \$2,500 computer to take to college. She has saved up some money from summer jobs, but not enough to buy the computer outright. Your client wants to buy the computer using a credit card, but she has never had or used a credit card before, and she is concerned about diving into the world of credit card interest and debt. She has heard that people can get into financial trouble because of interest payments, and she wants to avoid this. What advice would you give your client?

Ask students if they've heard the term *interest* and wondered what it meant. Explain that in financial terms, *interest* refers to the money people earn when they invest their money in a bank. It also refers to the extra money you have to pay when you make a purchase using a credit card. Explain that credit cards let you make big purchases that you otherwise couldn't afford, like the computer your hypothetical client wants to buy, because the credit card companies let you pay smaller amounts spread out over a longer period of time. However, the catch is that each time you make a payment, you also pay an extra amount to the credit card company. This extra money, like the money you earn in a bank account, is interest.

2 Lead students to consider the importance of managing credit card usage using the following guiding questions:

- What are the advantages of using a credit card?
(making large purchases that otherwise wouldn't be possible, building a positive credit rating)
- What could happen if you used a credit card too often?
(You could wind up with payments that are difficult to make, due to the interest.)
- Why do some people rely on credit cards more than others?
(easy to use, deferring payment, lower incomes)
- Do all credit card users pay the same interest?
(No—factors include the user's age, income, and credit score.)

3 Distribute the [Profiles in Credit](#) student handout. Have students review each profile and think about how credit card usage and interest rates impact each of the individuals. Then, have them write what they think will happen to each person when he or she needs to make a large purchase in the future, such as a house or a car.

Have the students split up into pairs. One student in each pair will be a person from one of the profiles, and the other will be a bank loan officer. The "profile" student must try to convince the "bank officer" to grant him or her a loan for a car or a house, using information from the profile and what they've learned about credit and interest. The "bank officer" will use the same knowledge to support his or her decision regarding granting the loan.



- 4 Ask** students for their thoughts on how and why the factors in each profile affected that person’s ability to get a loan. Explain that banks look at factors such as age, employment, and history of making payments to determine whether to approve a loan or a credit card and what a person’s interest rates will be. This is called a credit score.

Someone who makes a lot of credit card purchases, misses payments, or only makes minimum payments is likely to have a low credit score, and that person will be charged a higher interest rate than someone who uses a credit card infrequently, makes all of his or her payments on time, and pays off the balance quickly. However, someone who doesn’t have any credit cards may actually have a lower credit score than someone who has credit cards and makes regular payments. Explain that anyone can learn and monitor their credit score for free by contacting one of the three major credit bureaus (TransUnion, Experian, and Equifax) or by using a credit-monitoring app such as Credit Karma.

- 5 Challenge** students to identify and summarize the problem that needs to be solved. Remind students that interest has both positive and negative aspects. Have them consider the impact interest can have on both a person’s individual finances and the overall financial health of their community.



Students will use the computational thinking strategy of finding patterns to identify trends in consumer credit data.

- 1 Ask** students to consider the advantages of finding patterns in consumer credit data. Point out that collecting data and seeking patterns within that data can help address some of the problems related to credit use by showing when and where these problems arise. This can lead to solutions on both the personal and the community level.
- 2 Distribute** the [Interest Rates Graph](#) student capture sheet. Inform students that they will be using data from the [U.S. Federal Reserve System](#) to create a graph demonstrating the interest rate trends and fluctuations of the past five years. Tell students that the Federal Reserve, or Fed, is the central bank of the United States that oversees all the smaller banks in the country.

Teacher Note: Students may ask why the Federal Reserve is allowed to collect this information and what it does with it. Explain that the Federal Reserve collects data to understand trends that can allow it to meet people's financial needs more effectively, and it does not share any data that could harm a person, such as names, social security numbers, or bank account numbers.
- 3 Direct** students to the Federal Reserve website. Have them use the worksheet to create a graph using the data they find there. Remind them that the graph should show how interest rates have changed over the past five years. Have them look for patterns as they create their graph.
- 4 Once the graphs are complete**, instruct students to examine them and look for patterns. Encourage them to write down any thoughts or questions that arise when examining the graphs, and note any explanations or phenomena that might explain the patterns and trends they see.



Students will act as financial advisers who are advising a client who would like to make a \$2,500 computer purchase within the next month.

- 1 Remind** students of the original scenario, in which they acted as a financial adviser for an 18-year-old client who wants to buy a \$2,500 computer for college. Then, distribute the [Financial Plan](#) student capture sheet. Have students read the detailed description of the scenario, which includes additional information about the client and her circumstances.
- 2 Have students use the worksheet** to write a detailed financial plan for their client with the goal of helping her purchase the computer in the desired timeframe, make affordable payments, and build a good credit score. The financial plan should:
 - Address each of the client’s concerns
 - Include any questions they have for the client as her financial adviser
 - Provide step-by-step details outlining what the client should do
 - Draw on patterns taken from data on credit usage, interest trends, and the impacts of credit on an individual and his or her community
- 3 Summarize** by inviting students to share an overview of their plan with the class and explain the reasons behind the advice they provided. Invite students to share any stories they might have from their personal experiences with credit card usage (perhaps they have a friend or family member who has just gotten his or her first credit card, who gets rewards like free flights for using a credit card, who has made the decision to never use credit cards, or who has stopped using credit cards after a bad experience) and to offer their thoughts on credit card usage.



Select one of the strategies listed below to help students answer these questions:

- How do this problem and solution connect to me?
- How do this problem and solution connect to real-world careers?
- How do this problem and solution connect to our world?

- 1 Write** the three questions on PowerPoint or flip chart slides and invite students to share out responses.
- 2 Display** pieces of chart paper around the room, each with one question written on it. Ask students to write down their ideas related to the questions on each sheet.
- 3 Assign** one of the questions to three different student groups to brainstorm or research, and then share out responses.
- 4 Invite** students to write down responses to each question on a sticky note, and collect them to create an affinity diagram of ideas.

How does this connect to students?

Credit cards are hard to avoid. Students have most likely seen television or online ads for credit cards or for credit monitoring services like Credit Karma. They have most likely also seen credit card offers in the mail or heard their parents talking about them.

Students are most likely also aware of the challenges of making large purchases. They may have saved up for something, only to find they still did not have enough, and wondered what options were available.

How does this connect to careers?

Financial Advisers and Bankers use their knowledge of interest and credit to help people make informed decisions about loans, credit cards, and investments.

Financial Analysts study consumer trends in purchasing and credit usage, and they use that information to help banks make decisions about interest rates and credit lines.

Debt Relief/Debt Consolidation Advisers assist people who can no longer manage their credit card debt and develop programs to help them get back on their feet.

Small Business Owners must often rely on credit cards when starting their businesses.

How does this connect to our world?

A strong understanding of interest and credit card use can help an individual or community get through difficult financial times, make necessary large purchases, start a business, or save for retirement. Poor understanding can lead to debt, paying far more than necessary for items, loss of savings and the ability to get loans, and, in extreme cases, bankruptcy.

Credit cards are ubiquitous, easy to use, and easy to misuse. Therefore, it is crucial to understand the principles of interest and credit card usage to use them wisely and effectively.

National Standards

ELA/LITERACY:

[CCSS.ELA-LITERACY.W.8.7](#)

Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

[CCSS.ELA-LITERACY.W.8.8](#)

Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

[CCSS.ELA-LITERACY.W.8.9](#)

Draw evidence from literary or informational texts to support analysis, reflection, and research.

MATH:

Summarize and describe distributions.

[CCSS.MATH.CONTENT.6.SP.B.4](#)

Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

[CCSS.MATH.CONTENT.6.SP.B.5](#)

Summarize numerical data sets in relation to their context, such as by:

[CCSS.MATH.CONTENT.6.SP.B.5.A](#)

Reporting the number of observations.

[CCSS.MATH.CONTENT.6.SP.B.5.B](#)

Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

[CCSS.MATH.CONTENT.6.SP.B.5.C](#)

Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.

[CCSS.MATH.CONTENT.6.SP.B.5.D](#)

Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

National Standards

THE COLLEGE, CAREER, AND CIVIC LIFE (C3) FRAMEWORK FOR SOCIAL STUDIES STATE STANDARDS: GUIDANCE FOR ENHANCING THE RIGOR OF K-12 CIVICS, ECONOMICS, GEOGRAPHY, AND HISTORY

Dimension 4, Communicating Conclusions

By the end of grade 8:

D4.3.6-8.

Present adaptations of arguments and explanations on topics of interest to others to reach audiences and venues outside the classroom using print and oral technologies (e.g., posters, essays, letters, debates, speeches, reports, and maps) and digital technologies (e.g., Internet, social media, and digital documentary).

D4.4.6-8.

Critique arguments for credibility.

D4.5.6-8.

Critique the structure of explanations.

K-12 COMPUTER SCIENCE FRAMEWORK

Practice 6: Constructing Explanations and Designing Solutions

Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future. Apply scientific ideas, principles, and/or evidence to construct, revise and/or use an explanation for real-world phenomena, examples, or events.

Profiles in Credit

Read each profile. Then, describe what sort of credit and interest each person might be offered.

1 Profile #1: Shanelle

Shanelle is 23. She is a recent college graduate with a full-time job as the receptionist at a health clinic and \$40,000 in student loan debt. Shanelle lives with her parents, owns an old used car outright, and has one credit card on which she pays the balance regularly.

Shanelle's Credit Outlook:

2 Profile #2: Jonathan

Jonathan is 35. He rents an apartment in New York City, where he takes part-time jobs as a bartender and waiter while trying to break into acting. Jonathan does not own a car, and because of his irregular work, he uses several credit cards to pay for most of his expenses. While he doesn't miss payments, he usually only pays the minimum.

Jonathan's Credit Outlook:

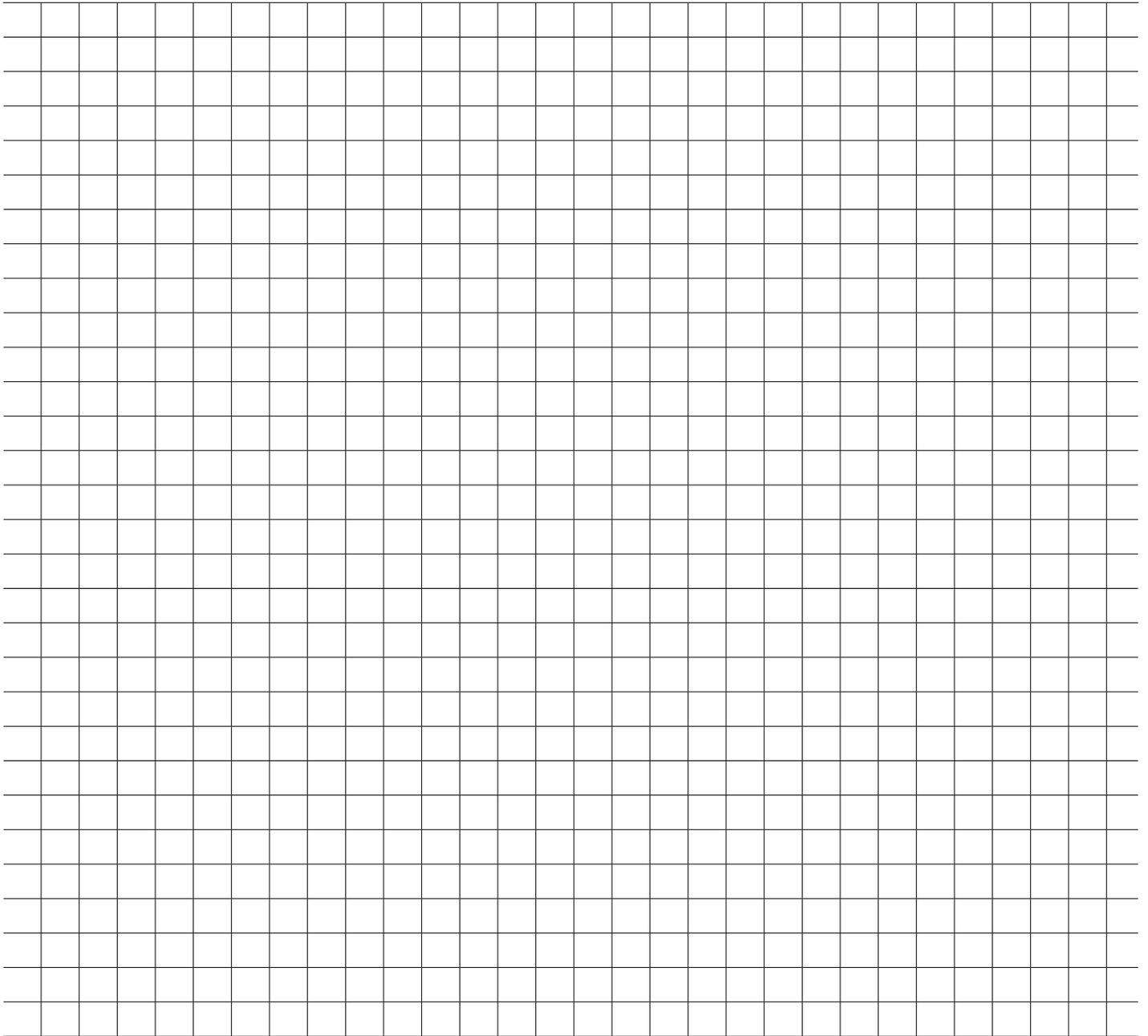
3 Profile #3: Blake

Blake is 47. He is a restaurant owner who filed for bankruptcy three years ago when his last venture failed and he lost most of his savings. He makes car and mortgage payments, and he currently cannot use any of his credit cards because of the bankruptcy.

Blake's Credit Outlook:

Interest Rates Graph

Use this worksheet to create a graph tracking interest rates over the past five years.



Financial Plan

Read the profile, then use this worksheet to write a financial plan to help your client achieve her goals.

You are a financial adviser with a new client. She is 18 and has never had a credit card. While her parents have some credit history, they would not be financially able to help her pay her debt should she be unable to pay on her own. Your client wants to buy a new computer for \$2,500 within a month so she can bring it with her to college. She is uncertain of what a good interest rate would be, how much more she would end up paying if she uses a credit card, and what her repayment options will be while she is still a student.

What advice would you give?