2 - Banking & Credit Cards

Content Area: **Mathematics**
Course(s):
Time Period: **Marking Period 1**
Length: **25 Days**
Status: **Published**

Summary

Introduction: Unit 2 will focus on banking options and credit card benefits and detriments. The students will be able to compare and contrast different banking options and determine what could benefit them the most. They will also spend time choosing credit card reward programs that would create the most “passive income” passed on purchasing power from their budgetary expenses.

Revision Date: July 2026

Essential Questions/Enduring Understandings

Essential Questions:

- How do people gain access to money they keep in the bank?
- How do checking account users make sure that their records are correct?
- What types of savings accounts do banks offer customers?
- What is compound interest and what are the advantages of using the compound interest formula?
- How can interest be compounded continuously?
- How can you effectively plan for the future balance in an account?
- How can you determine what you need to invest now to reach a financial goal?
- How long should funds remain in a single deposit savings account?
- How long should you make deposits to reach my goal?
- How long can you make withdrawals before running out of money?
- What do you need to know before using credit?
- What information do you need to know before taking out a loan?
- How can you pay for a post-high school education?
- What do you need to know to use credit cards?

- What information does a credit card statement give you?

Enduring Understanding:

- Explain how checking accounts work and complete a check register.
- Reconcile a checking account with a bank statement by hand and a spreadsheet.
- Compute simple interest using the formula.
- Compute compound interest using a table and the formula.
- Compute interest on an account that is continuously compounded.
- Calculate, graph, and interpret the future value of a periodic deposit investment.
- Calculate the present value of a single deposit investment and a periodic deposit investment.
- Construct and evaluate exponential and (common and natural) logarithmic models of a situation.
- Demonstrate use of the Change-of-Base formula.
- Explain and apply the properties of logarithms.
- Determine the term of a systematic savings and withdrawal.
- Identify types of lending institutions and compute finance charges for installment purchases.
- Read a table and compute from a formula the monthly payments.
- Calculate the interest due in various student loan situations, and apply the daily interest formula.
- Compute an average daily balance on a credit card.
- Identify and use the various entries in a credit card statement.

Objectives

Students will know: (content area knowledge)

- How to use simple arithmetic skills in a check register.
- How to use Google Sheets to confirm the arithmetic skills.
- How to compute interest using simple formulas and compounding formulas.
- How to calculate present and future values of investments.
- How to evaluate exponential and logarithmic equations.

- How to use the Change-of-Base formula and logarithm properties.
- How to calculate monthly payments from a formula.

Students will be skilled at: (skills)

- Comparing and contrasting the benefits of a checking account and savings account.
- Identifying interest from a table.
- Graphing and interpreting a periodic deposit investment.
- Constructing exponential and logarithmic models.
- Identifying the benefits of each type of lending institution.

Learning Plan

- Warm - Up: Students will complete either the warm-up in the textbook for a specific section, or a related problem from the teacher. A timer at the front of the room will maintain timeframes of this activity. When the timer sounds, the students are to hand their work to the teacher for a grade.
- Homework: While the warm-up is being completed, the teacher will walk the room to check homework has been completed. Teacher will check in individually with students who did not fully complete the assignment. Teacher will also take time to ask students with completed assignments if there are specific problems that they would like discussed.
- Discussion: Teacher will go over the warm-up as well as requested homework problems. This will allow time for students to clarify questions on material that has already been covered, and the warm-up gives students a glimpse into the material that will be covered in the new lesson. Teacher will be actively listening during this discussion for signs that students need additional time with previous information before continuing with the next lesson.
- Lesson: Teacher will lead students through discovering how to apply their prior mathematical knowledge into new content. Students will lead the lesson on how much they remember about the math concept before the application. Once students have a complete knowledge of the concept, teacher will encourage students to apply the concept to the real world situation. Calculations will be completed by students alongside teacher, then within small groups to compare with each other, and finally independently. During the group work time, teacher will circulate the room to listen to each group's discussion of the lesson, monitoring if specific students are struggling and encouraging them. A timer at the front of the room will maintain timeframes of these discussions. During independent work time, teacher will circulate the room to monitor students' progress, especially the aforementioned struggling students.
- Free Work: If time allows, students will be encouraged to spend the rest of the period working on either their homework assignment or progressing on the main project for the unit.

Assessment

Formative Assessments:

- Prior math concept assessments
- Warm-ups

Summative Assessments:

- Chapter assessments
- Unit assessments
- Unit projects

Benchmark Assessments:

- Informal observations
- Small group observations
- Oral and written explanations of reasoning
- Homework completion

Alternative Assessments

- Group discussions
- Performance tasks

Materials

Core Instructional Materials: Core Book List including

- Financial Algebra: Advanced Algebra with Financial Applications
- Authored by Robert Gerver, Richard Sgroi

Supplemental materials:

- Financial Algebra website
- Edia website
- Khan Academy website

Standards

This unit includes instructional materials that highlight the history and contributions of Asian Americans and Pacific Islanders in accordance with the New Jersey Student Learning Standards in Social Studies.

Students will focus on equity, inclusion, and tolerance when analyzing the comparison of various quantities regarding characteristics of people. Equality will also be highlighted which can be associated with both numerical representations and the connection between people. This can be associated with treating people fairly and equality.

9.1.12.CFR	Civic Financial Responsibility
1	Make sense of problems and persevere in solving them
S.ID	Interpreting Categorical and Quantitative Data
P.2	Attend to financial well-being.
4	Building Knowledge: Building strong content knowledge and connecting ideas across disciplines using a variety of text resources and media.
P.5	Utilize critical thinking to make sense of problems and persevere in solving them.
S.ID.B	Summarize, represent, and interpret data on two categorical and quantitative variables
4	Model with mathematics
N.Q.A	Reason quantitatively and use units to solve problems
9.2.12.CAP.5	Assess and modify a personal plan to support current interests and post-secondary plans.
9.1.8.CDM	Credit and Debt Management
N.Q.A.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
N.Q.A.2	Define appropriate quantities for the purpose of descriptive modeling.
9.1.12.CDM	Credit and Debt Management
6	Attend to precision
S.ID.C	Interpret linear models
8	Look for and express regularity in repeated reasoning
9.1.8.CP	Credit Profile
9.2.12.CAP.13	Analyze how the economic, social, and political conditions of a time period can affect the labor market.
S.IC	Making Inferences and Justifying Conclusions
9.1.12.CDM.6	Compute and assess the accumulating effect of interest paid over time when using a variety of sources of credit. (e.g., student loans, credit cards, auto loans, mortgages, etc.).
9.2.12.CAP.14	Analyze and critique various sources of income and available resources (e.g., financial assets, property, and transfer payments) and how they may substitute for earned income.
9.2.12.CAP.17	Analyze the impact of the collective bargaining process on benefits, income, and fair labor practice.
9.1.12.CP	Credit Profile
9.1.8.FI	Financial Institutions

9.1.12.PB	Planning and Budgeting
9.1.12.RM.3	Compare the cost of various types of insurance (e.g., life, homeowners, motor vehicle) for the same product or service, strategies to lower costs, and the process for filing an insurance claim.
9.1.12.RM.6	Differentiate the costs benefits and features (e.g., riders, deductibles, umbrella policies) of renter's and homeowner's insurance.

Suggested Strategies for Modification

Suggested Strategies for Modification for Financial Algebra