

## WAMC Lesson Plan

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Lesson Title: FA 4-4 Credit Cards

Date: June 24, 2014

Text: Cengage Financial Algebra

Lesson Length: 2 days

Domain:N-Q1, NQ2, A-SSE1	
Big Idea (Cluster): Quantities and Seeing Structure in Expressions	
Common Core State Standards: <ul style="list-style-type: none"> <li>• Reason quantitatively and use units to solve problems</li> <li>• Interpret the structure of expressions</li> </ul>	
Mathematical Practice(s): <ul style="list-style-type: none"> <li>• Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret the scale and origin in graphs and data displays</li> <li>• Define appropriate quantities for the purpose of descriptive modeling</li> <li>• Interpret expressions that represent a quantity in terms of its context</li> </ul>	
Content Objectives: <ul style="list-style-type: none"> <li>• Students will become familiar with the basic vocabulary of credit cards</li> <li>• Students will be able to compute an average daily balance</li> </ul>	Language Objectives: <ul style="list-style-type: none"> <li>• Students will be able to verbally explain the different acts in place to protect credit card holders.</li> <li>• Make accommodations for ELL students and scaffold lessons to meet needs of SPED students</li> </ul>
Vocabulary: Students will need to be able to define the following: <ul style="list-style-type: none"> <li>• Credit card</li> <li>• Impulse buying</li> <li>• Revolving charge account</li> <li>• Change card</li> <li>• Truth-in-Lending Act</li> <li>• Fair Credit Billing Act</li> <li>• Fair Debt Collection Practicing Act</li> <li>• Debit Card</li> <li>• Electronic Funds Transfer Act</li> <li>• Average Daily Balance</li> <li>• Mean</li> </ul>	Connections Prior to Learning: <ul style="list-style-type: none"> <li>• Students will have knowledge of credit cards and know how to find the mean.</li> <li>• Students may also have prior knowledge of credit cards from family, friends, or personal experience.</li> </ul>
Questions to Develop Mathematical Thinking: <ul style="list-style-type: none"> <li>• What happens when someone does not pay the full amount of their credit card balance?</li> <li>• What are some things to look for when choosing a credit card?</li> <li>• Why might it be good to have a credit card?</li> </ul>	Common Misconceptions: <ul style="list-style-type: none"> <li>• Students assume credit cards are ways to just charge things without having to pay for them right away. They don't always think about the charges and fines that come with the credit card.</li> <li>• Students may have preconceived ideas about credit cards from family, friend, or personal experience.</li> </ul>

## WAMC Lesson Plan

### Assessment (Formative and Summative):

- Formative: Students will be formatively assessed from their application questions. Students will also be formatively assessed through their think-pair-share
- Summative: Students will be summatively assessed through the section quiz

### Materials:

- White Board/Markers
- Textbook
- Calculator
- Credit card applications
- Section Quiz

### Instruction Plan:

#### Launch:

- Teacher will begin lesson by asking students their prior knowledge of credit cards.
- Teacher will then give personal experiences of credit cards.
- If time, teacher will give students examples of various credit card applications found online
- Students will then think-pair-share their thoughts on at least three reasons why someone would want a credit card.
- Once students have discussed their reasons, students will write their top ideas up on the board.
- If time, class will discuss top reasons

#### Explore:

- Teacher will go through vocabulary with students and explain how they relate to credit cards and this section
- Teacher will go through examples given in the textbook
- Students will explore how to compute a monthly finance charge
- Students will explore how to compute a monthly interest rate from a APR

#### When I observe students:

- Teacher will observe students while they talk with peers through think-pair-share and monitor vocabulary usage
- Teacher will observe students while they work through the application questions and observe progression and answer any questions
- Students will be engaged through peer discussion using the vocabulary from the section
- Students will be actively involved in answering example questions

#### Questions to Develop Mathematical Thinking as you observe:

1. What happens when someone does not pay the full amount of their credit card balance?
2. What are some things to look for when choosing a credit card?
3. Why might someone get a credit card?

#### Answers: Answers vary. Possible student answers-

1. They have a finance charge dependent on their account balance and APR
2. The APR and any other fees. Rewards for spending may be another thing to look for when choosing a credit card.
3. Rewards, big purchase, to build credit, etc.

Summarize: Students have now learned how to compute an average daily balance.

## WAMC Lesson Plan

- Teacher will close lesson by giving students time to work on application questions and assigning any questions not finished for homework.
- Teacher will tell students there will be a section quiz tomorrow once they go over their homework
- Teacher will let students know they will begin a lab tomorrow where they will be researching possible credit cards using the information learned today.

**Career Application(s):**

- Car salesman who is helping customers finance their car
- Loan officer at a bank
- Collection agency representative

**21<sup>st</sup> Century Skills and Interdisciplinary Themes:**

21st Century Interdisciplinary themes (Check those that apply to the above activity.)

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> Global Awareness       | <input checked="" type="checkbox"/> Financial/Economic/Business/Entrepreneurial Literacy | <input type="checkbox"/> Civic Literacy |
| <input type="checkbox"/> Health/Safety Literacy | <input type="checkbox"/> Environmental Literacy  |   |

21st Century Skills (Check those that students will demonstrate in the above activity.)

**LEARNING AND INNOVATION**

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Critical Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgments and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

**INFORMATION, MEDIA & TECHNOLOGY SKILLS**

Information Literacy

- Access and Evaluate Information

Use and manage Information

Media Literacy

- Analyze Media
- Create Media Products
- Information, Communications and Technology (ICT Literacy)
- Apply Technology Effectively

**LIFE & CAREER SKILLS**

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

**Productivity and Accountability**

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

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## **WAMC Lab Template**

Math Concept(s): FA 4-4 Credit Cards

Source / Text: Cengage Financial Algebra

Developed by: Kelsey Smersh

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Date: Summer In-service 2014

### **Attach the following documents:**

Lab Instructions

Student Handout(s)

Rubric and/or Assessment Tool

### **Short Description (Be sure to include where in your instruction this lab takes place):**

This lab will have students comparing three different credit cards online. Students will use the vocabulary they learned in 4-4 to determine the best credit card option for them. Once they have chosen a credit card they will use that information to fill in a possible bank statement. Students will get into groups of three and discuss their credit card options.

Lesson steps:

- Teacher will explain lab and go through steps
- Students will read over lab with teacher
- Students will log onto the computer and research various cards
- Teacher will walk around and monitor
- Students will fill out student handout
  - Compare three cards
    - Complete tables
  - Answer questions that go along with possible bank statement
- As students complete their handout they will get into groups of about three and discuss
- End of the class period students will turn in their completed student handout and credit card application
  - If students have not completed their handout it will be assigned as homework

### **Lab Plan**

Lab Title: Credit Card Quest

Prerequisite skills:

- Students will have knowledge of the following
  - Credit cards
  - APR
  - Annual fee
  - Finance charges

Lab objective:

- Students will be able to compare multiple credit cards and choose the best credit card.
- Students will be able to complete a possible credit card statement given the information from their chosen credit card
- Students will be able to discuss with their peers on why they chose their particular credit card.

**Standards:**

CCSS-M:

- N-Q1, NQ2, A-SSE1
  - Reason quantitatively and use units to solve problems
  - Interpret the structure of expressions

Standards for Mathematical Practice:

- Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret the scale and origin in graphs and data displays
- Define appropriate quantities for the purpose of descriptive modeling
- Interpret expressions that represent a quantity in terms of its context

State Standards addressed (2008 Washington State Mathematics Standards):

- 

Reading:

- 

Writing:

- 

Leadership/21st Century Skills:

<b>21st Century Interdisciplinary themes</b> (Check those that apply to the above activity.)			
<input type="checkbox"/> Global Awareness	<input checked="" type="checkbox"/> Financial/Economic/Business/Entrepreneurial Literacy	<input type="checkbox"/> Civic Literacy	
<input type="checkbox"/> Health/Safety Literacy	<input type="checkbox"/> Environmental Literacy		
<b>21st Century Skills</b> (Check those that students will demonstrate in the above activity.)			
<b>LEARNING AND INNOVATION</b>	<b>INFORMATION, MEDIA &amp; TECHNOLOGY SKILLS</b>	<b>LIFE &amp; CAREER SKILLS</b>	<b>Productivity and Accountability</b>
<u>Creativity and Innovation</u>	<u>Information Literacy</u>	<u>Flexibility and Adaptability</u>	<u>Leadership and Responsibility</u>
<input checked="" type="checkbox"/> Think Creatively	<input checked="" type="checkbox"/> Access and Evaluate Information	<input type="checkbox"/> Adapt to Change	<input type="checkbox"/> Manage Projects
<input checked="" type="checkbox"/> Work Creatively with Others	<input checked="" type="checkbox"/> Use and manage Information	<input type="checkbox"/> Be Flexible	<input checked="" type="checkbox"/> Produce Results
<input type="checkbox"/> Implement Innovations	<u>Media Literacy</u>	<u>Initiative and Self-Direction</u>	<input type="checkbox"/> Guide and Lead Others
<u>Critical Thinking and Problem Solving</u>	<input checked="" type="checkbox"/> Analyze Media	<input checked="" type="checkbox"/> Manage Goals and Time	<input type="checkbox"/> Be Responsible to Others
<input checked="" type="checkbox"/> Reason Effectively	<input type="checkbox"/> Create Media Products	<input checked="" type="checkbox"/> Work Independently	
<input type="checkbox"/> Use Systems Thinking	<u>Information, Communications and Technology (ICT Literacy)</u>	<input type="checkbox"/> Be Self-Directed Learners	
<input checked="" type="checkbox"/> Make Judgments and Decisions	<input checked="" type="checkbox"/> Apply Technology Effectively	<u>Social and Cross-Cultural</u>	
<input checked="" type="checkbox"/> Solve Problems		<input checked="" type="checkbox"/> Interact Effectively with Others	
<u>Communication and Collaboration</u>		<input type="checkbox"/> Work Effectively in Diverse Teams	
<input checked="" type="checkbox"/> Communicate Clearly			
<input checked="" type="checkbox"/> Collaborate with Others			

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**Teacher Preparation: (What materials and set-up are required for this lab?)**

## Materials

- Student handouts
- Calculator
- Textbook for reference if needed
- Computer access for each student
- Internet
- Printer

## Set-Up Required:

- Make copies of student handouts
- Reserve a computer lab or laptops for day of lab

## **Lab Organization Strategies:**

### Grouping/Leadership/Presentation Opportunities:

- Students will work independently to compare three different credit cards
- Students will work in groups of three to share why they chose their particular card and compare top cards in each group
- Students will be given the opportunity to present on their credit card and why they chose that particular card

### Cooperative Learning:

- Once students have determined their top credit card they will work together in groups of about three to discuss and compare

### Expectations:

- Students will work independently to complete task one of comparing cards
- Students will actively use the math concepts learned in section 4-4
- Students will work in groups of three to discuss their different cards researched

### Timeline:

- Two class periods
  - One class to research and start discussion
  - One class to finish discussion and present findings

## **Post Lab Follow-Up/conclusions:**

### Discuss real world application of learning from lab

- If students haven't already, there will a time where they will want to get a credit card. This lab gives them real world application on doing the research to get a card.

### Career Applications

- Professional Consumer
- Financial Counselor

### Optional or Extension Activities

- Have students take their top credit card and apply for it using the application they printed
- Have students visit a bank and discuss possible credit options with employee there

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Name: \_\_\_\_\_

Period: \_\_\_\_\_

### Credit Card Quest

You have now learned about the importance of understanding credit cards and their many components. You understand terms like APR, late fees, finance charge, and average daily balance. As discussed in class, there are many credit card options available but not all offers are equal.

**Task 1 (75 points):** Using the information you learned in 4-4, you are going to research three different credit card options. Individually, you will use the internet to look up and compare three credit cards of your choice. Use the tables below to document your findings. Make sure to include your sources where you found the information.

Research:

Credit Card	Initial APR	APR	Annual Fee	Late Fees	Rewards
1.					
2.					
3.					

Credit Card	Benefits	Drawbacks
1.		
2.		
3.		

Sources:

Credit Card Choice:

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**Task 2 (50 points):** Now that you have chosen your credit card, answer the following questions using the information you gathered from your research. Answer questions completely and make sure to show your work.

1. Fill in the following credit card statement and answer the questions using your current credit card APR and information below.

ACCOUNT INFORMATION							
Account Number		4-10600000		Billing Date		30 Nov.	
Payment Due		8 Dec					
TRANSACTIONS						DEBITS/CREDITS (-)	
9 NOV	759375983	Pete's Garage				\$167.50	
13 NOV	938593784	Shell Gas				\$67.00	
15 NOV	739217349	Sandy's Sandwiches				\$18.54	
19 NOV	384756264	PAYMENT- thank you				\$50.00	
23 NOV	529084611	La Casita Restaurant				\$44.21	
24 NOV	346573618	Sports Authority				\$132.75	
SUMMARY							
	Previous Balance	Payments/Credits	New Purchases	Late Charges	Finance Charge	New Balance	Minimum Payment
	\$231.45	\$50.00	?	\$0.00	?	?	\$30.00

- a. How many purchases were made during the billing cycle?
- b. What is the sum of all the purchases made during the billing cycle?
- c. Given your APR from the credit card you chose, what would your finance charge be?
- d. What is the new balance after purchases and payments?
- e. If your total credit line is \$1,500, how much is remaining?
- f. What was your average daily balance for this billing cycle?

Name: \_\_\_\_\_

Period: \_\_\_\_\_

4-4 Credit Cards Section Quiz

Directions: Answer the following questions. Make sure to show your work and answer to the nearest cent whenever necessary.

1. Your credit card was stolen. You did not realize it was stolen until 5 days later. In those 5 days, someone charged \$63.34.
  - a. How much are you responsible for paying?
  - b. Under which act are you protected?
  
2. Bill had the following daily balances on his credit card for the last billing period. He did not pay the card in full the previous month, so there is a financial charge. The APR is 18%.

Four days @ \$563.10

Three days @ \$714.15

Six days @ \$1,633.00

Nine days @ \$988.70

Eight days @ \$2,111.00

- a. What is Bill's monthly interest rate?
- b. What is the average daily balance?
- c. What is the finance charge?
- d. If Bill would have paid his card in full last month, what would his finance charge be? Why?

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Answers:

1.
  - a. \$50.00
  - b. Truth-in-Lending Act
2.
  - a. 1.5%
  - b. \$1,332.64
  - c. \$19.99
  - d. \$0.00, no finance charge if paid in full

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