

# Dollars and Sense II: Our Interest in Interest, Managing Savings, and Debt

## Lesson 5

## Managing Credit with Savings and Spending

### Instructions for Teachers

#### Overview of Contents

Building on the introduction to credit card use in Lesson 3, Lesson 5 contains two computer hands-on simulations that are designed to help students extend their understanding of real world, ongoing credit card use and its relationship to one's overall personal finances. The simulations challenge students to both create and then address personal scenarios of interest while further managing ongoing credit card use in the larger context of saving, spending, and savings goals.

- Simulation 1 offers the opportunity to “Create Your Own Scenario,” based on either the repayment of a single outstanding bill or the regular use of a credit card. This open-ended simulation allows students to explore payment strategies involving different levels of initial debt, ongoing charges, and interest rates.
- Simulation 2 further extends students’ real world learning by adding income and other spending into the mix with CREDIT CARD DEBT, thereby enabling students to see the ongoing impact of monthly credit card use on overall SAVINGS goals.

In each case, students will be able to see the results of different credit card use and payment strategies, including total Interest costs and repayment times, plotted out over time in GRAPHS and TABLES.

#### MATERIALS

- Computer Simulation (available online at [http://www.clexchange.org/curriculum/dollarsandsense/Dollars and Sense II/ds2\\_lesson5.asp](http://www.clexchange.org/curriculum/dollarsandsense/Dollars%20and%20Sense%20II/ds2_lesson5.asp)).
- Four handouts (use as needed) to record plans and results.

Exploring scenarios of personal interest provides meaningful opportunities to avoid credit missteps.

Paying Interest charges out of money that would go to SAVINGS reduces future Interest earned.

These simulations offer no single right answer, just opportunities for students to explore and test different strategies to discover what works bests for them.

## Core Objectives For Lesson 5

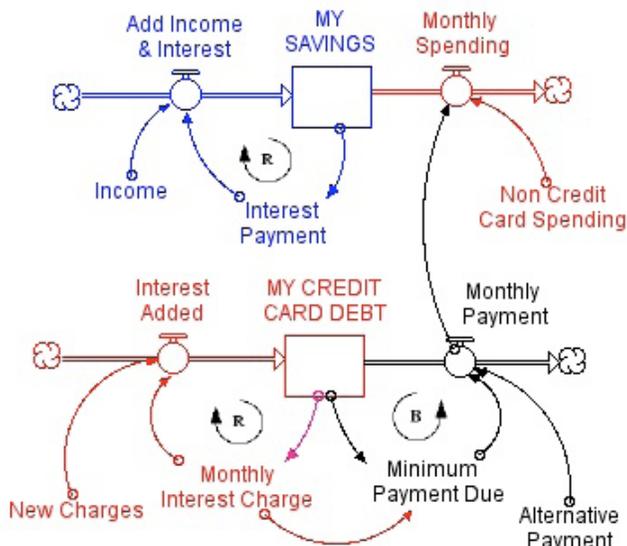
- (1) [Managing Credit Card Use](#). Having recognized that credit card debt generates Interest and that Minimum Payments Due are designed to maximize credit card company profits, students learn strategies for balancing personal financial goals (minimizing interest payments, achieving SAVINGS goals) with their need to use credit.
- (2) [How Compounding Interest \(on a Debt\) works together with SAVINGS and Spending](#). In managing credit card use along with larger personal financial goals, students learn where and how to maximize Interest on SAVINGS while minimizing Interest payments to the credit card company on the UNPAID portion of MY CREDIT CARD DEBT or loan.
- (3) [Using Models to Test Options](#). The open-ended and hands-on focus of each simulation in this lesson are designed to encourage students to explore options and opportunities for evaluating different mental models, assumptions or decisions. Ultimately, students have the opportunity to identify, and then explain to others, a preference for one choice over other choices. At the core of this process is an important recognition that there is no single right answer for everyone. Rather, there are options, trade-offs, and multiple pathways through which students can define and subsequently achieve personal financial goals.

## Deepening Understanding For How The “System” Works

The conceptual tools of systems thinking help to visualize the dynamic process that unfolds over TIME. In the illustration of the actual model underlying each of the simulations in Lesson 5, students can see the relationship between their credit usage and their overall SAVINGS. SAVINGS grows with regular Income and Interest and is reduced by total Spending:

1. when a Monthly (Credit Card) Payment Due is LESS than the total outstanding MY CREDIT CARD DEBT, the unpaid portion of the debt will incur a New Monthly Interest charge;
2. when a Minimum Payment Due (calculated to equal the amount of New Monthly Interest and 1% of the existing MY CREDIT CARD DEBT) is designed to maximize the profits of the credit card company;
3. when Minimum Payments Due are made, additional new monthly charges have the potential for growing debt; and
4. when Interest payments on MY CREDIT CARD DEBT depletes SAVINGS, sacrificing potentially long-term (and significant) amounts of MY SAVINGS Interest.

Interest paid to the credit card company on the unpaid balance of MY CREDIT CARD DEBT boosts one’s spending, thus reducing one’s SAVINGS. Recognizing the long-term potential benefits on SAVINGS Interest, the “real” cost of credit card Interest charges should be seen as a compounding interest loss greater than the actual payment.



The simulation can be customized:

- to look at credit limits up to \$25,000;
- with Interest Rates from 5 to 30%;
- existing debt up to \$15,000; and
- new monthly charges up to \$5,000;
- making Minimum Payments Due; or
- a set monthly payment up to \$10,000.

What follows are brief introductions to each of the two simulations, “annotated” versions of suggested student handouts to accompany each of the simulations, and possible follow-up questions and activities for extended learning opportunities.

### **SIMULATION 1: Create Your Own Scenario**

[http://www.clexchange.org/curriculum/dollarsandsense/Dollars and Sense II/ds2\\_lesson5.asp](http://www.clexchange.org/curriculum/dollarsandsense/Dollars%20and%20Sense%20II/ds2_lesson5.asp).

For a teacher or student who prefers devising and exploring a scenario of their own choosing, this simulation provides a generic template with which to test out and evaluate different payment strategies.

## **SIMULATION 1 HANDOUT with ANSWERS and GUIDES FOR TEACHERS**

### **Create Your Own Scenario**

**1. Open Simulation 1, read the introduction, then record your scenario below.**

- (a) Outstanding CREDIT CARD DEBT \_\_\_\_\_ Is this (check one) \_\_\_ your first month’s charges OR \_\_\_ an unpaid accumulation over time?
- (b) Specify, if you continue to use the credit card on an ongoing basis, what will your average monthly charges be? \_\_\_\_\_
- (c) What is your credit card limit? \_\_\_\_\_ (This can range from \$500 for a new user to upwards of \$25,000 or more.)
- (d) What is the annual interest rate your credit card charges? \_\_\_\_\_ (Rates between 12% and 30% are most common.)
- (e) Will you pay (check one) \_\_\_ the Minimum Payment Due OR \_\_\_ an alternate monthly amount of (indicate amount) \$\_\_\_\_\_?

While the options are many, it is important that a purpose (e.g., no debt, a manageable monthly payment, etc.) is clearly identified prior to plugging in numbers. Regardless of what purpose is chosen, the purpose should recognize different strategies for using a credit card responsibly. As with all the simulations in these lessons, the goal is not to

find the one right answer but to evaluate different options to find out what works best for “me.” Through that process, the costs of using credit cards can be weighed together with the benefits.

In answering the questions above (necessary to run the simulation), students should research different credit limits and Interest Rates and the underlying reasons for them. (Why, for instance, students with little or no credit experience receive lower limits yet pay higher interest rates, on average.)

2. **Open the simulation CONTROL PANEL (entitled MY CREDIT CARD STATEMENT) and use the yellow boxes to enter the scenario you created. Use Instructions and “?” buttons for help if needed.**
3. **Run the simulation to see what happens. Then, create and explore different strategies and scenarios. Finally, describe below what you have discovered in the process of running the different scenarios.**

Ultimately, the ‘take home’ message here reinforces the points made in Lesson 3, Simulation 2. Interest Rates matter, as does the size of monthly payments: payments for less than the total amount of debt and new charges/interest lead to a GROWING debt. And, whereas the repayment of a single debt is guaranteed each month to reduce one’s total debt, the addition of new monthly charges changes that situation completely. Care must be taken to balance payments with new charges and interest, lest a growing stock of MY CREDIT CARD DEBT (their money, not yours) generates high interest charges (for you, not them).

## **SIMULATION 2: Managing Saving, Spending, and Credit**

[http://www.clexchange.org/curriculum/dollarsandsense/Dollars and Sense II/ds2\\_lesson5.asp](http://www.clexchange.org/curriculum/dollarsandsense/Dollars%20and%20Sense%20II/ds2_lesson5.asp).

In a final effort to place credit card debt in the larger context of one’s overall Spending and SAVING goals, this simulation offers students an opportunity to experiment with variable rates of monthly credit card use (acknowledging varied discretionary and unexpected expenses). In addition, students are encouraged to incorporate monthly income and other spending with credit card spending, in order to explore how different levels of credit card use impact on overall SAVINGS.

The simulation explores a specific scenario involving monthly Credit Card use between \$50 and \$150, based on an Income of \$1,300 and non-credit card expenses of \$1,100. It can be customized (along the lines of Simulation 1) with added options to:

- incorporate SAVINGS up to \$100,000;
- with Interest Rates up to 15%; and
- monthly income and non-credit spending up to \$5,000.

NOTE: There are two handouts provided here. The first specifies a particular scenario involving regular income (\$1,300) and expenses (\$1,100) with discretionary credit card use ranging between \$50 and \$150 a month. A second handout is provided for students to “Create Your Own Scenario” for managing saving, spending and credit.

## SIMULATION 2 HANDOUT A with ANSWERS and GUIDES FOR TEACHERS

### Managing Saving, Spending, and Credit

1. Open Simulation 2, read the introduction, then state your task below.

Because this simulation has many components, it is important that students understand (and can explain) the core learning objective for using the simulation. The core task is to evaluate the effectiveness of different monthly payment plans for managing both ongoing (and variable) credit card use and SAVINGS.

This is a very challenging exercise that assumes students have worked with and learned from Simulation 1 (in which ongoing credit card use cannot be sustained making minimum payments). The addition of randomly chosen (by the computer) monthly charges (within the defined minimum and maximum range) incorporates real world uncertainties and irregularities that must be carefully monitored. Students are further asked to see how these monthly charges, together with Interest Charges on the unpaid debt, impact one’s SAVINGS account. So there is much happening here.

2. Open the simulation CONTROL PANEL. In the upper yellow box (Credit Card Use) record the “Minimum Monthly” use (\$50) and “Maximum Monthly” use (\$150). In the lower yellow box (Non-Credit Card Finances), specify SAVINGS (\$2,000), “Monthly Income” (\$1,300), and “Non-Credit Card Spending” (\$1,100). Once these values are entered, do not change them: focus only on different payment strategies.

Explore at least THREE (3) different monthly payment strategies, specifying different sums of Pay Fixed Monthly Amount (or Minimum Payment Due). Make sure at least ONE is successful. Record results below.

	Plan 1	Plan 2	Plan 3	Plan 4 (optional)
Monthly Payment:	_____	_____	_____	_____
Was Card Cancelled?	Y / N	Y / N	Y / N	Y / N
Was Savings Exhausted?	Y / N	Y / N	Y / N	Y / N
Interest Paid:	_____	_____	_____	_____
SAVINGS:	_____	_____	_____	_____

In theory, students could simply pick and choose different fixed payment amounts and experiment to see if they worked. The real intent, though, is to get them thinking about AVERAGE monthly credit card charges (in this case, \$100 a month). Average monthly charges is a really important concept and something they should know how to calculate by reviewing and averaging past bills. Budgeting regular average credit card charges can and should be done, to avoid undesirable consequences.

**3. If any of your payment plans failed, explain why.**

Obviously, the Minimum Payment Due option is guaranteed to fail as illustrated in Simulation 1 (and, ideally, is something students should have known). Likewise, fixed monthly payments of LESS than \$100 a month (the average monthly charge) will cause the credit card balance to grow (and interest to accrue). Again, knowing and using AVERAGE monthly credit card charges to budget fixed costs is the key to successfully managing one's account.

**4. Choose your preferred payment strategy. To compare different (randomly selected) monthly credit card charges, RUN the simulation FIVE (5) times. Record the best (largest Savings, Lowest Interest Paid) and worst results below.**

Using a \$100 Fixed Monthly Payment:

"Best Case"	"Worst Case"
LOWEST Total Interest Paid: 0 possible	HIGHEST \$200 or so
LARGEST SAVINGS: \$6,500 or so	SMALLEST \$6,300

While monthly charges average \$100, there will be some level of variability or real world randomness, as illustrated above, where a \$100 fixed monthly payment may not pay one's entire debt, in which case interest charges can accrue (in this case, up to \$200). Likewise, on occasion, a fixed monthly payment less than \$100 (say, \$90) may not always trigger debt large enough to trigger one's credit card limit. However, over five runs, average monthly payments less than average charges will cause debt to grow, often to one's credit limit.

Again, the lesson here is about BUDGETING (knowing average monthly charges and making appropriate payments) for the purpose of preventing the credit card debt (balance) from growing (potentially, to one's credit limit) and, in that process, keeping interest charges as small as possible. Minimizing one's charges, while maximizing interest earned on one's SAVINGS, is clearly a win-win situation.

**5. Finally, run the simulation using the "Pay Whole Bill" option 5 times. What is the difference in these results as opposed to the "Pay Fixed Monthly Amount" results?**

Obviously, there is NO interest that accrues on the credit card account. For those seeking to maximize SAVINGS, this is the best choice. Note, though, that SAVINGS will vary based on the "randomness" of monthly charges and subsequent monthly earned interest.

6. Now it is time to EXPLAIN to others what you have learned from this exercise about managing variable credit card payments. What rule or rules (that underlie your successful strategy) will help others (1) be successful in dealing with varied credit card bills and (2) maximize their SAVINGS? Discuss below.

Ultimately, it is in the debriefing and sharing what one has learned that the lessons become clearer and more meaningful. Managing variable expenses (in this case, credit card monthly charges, though, in theory, it could be any type of spending) is challenging. But it is doable. The key lies with knowing WHAT one spends, on average, and making monthly payments that are consistent with that spending. Such a policy will prevent undesirable surprises, in the form of growing debt, which, in turn, encroaches on one's financial planning.

7. Care to up the stakes? Raise the maximum monthly credit card bill from \$150 to \$250. How, if at all, does that change anything?

Maintaining the minimum bill as set and raising the maximum credit card bill means that the average payment increases from \$100 to \$150. Designating this as a Fixed Monthly Payment will guarantee success.

8. Feel free to explore other scenarios of personal interest and describe one that you tried below.

## SIMULATION 2 HANDOUT B with ANSWERS and GUIDES FOR TEACHERS

### Building Your Own Scenario

This exercise continues the challenge in that it incorporates two levels of complexity not present in earlier scenarios. The first involves a variable monthly credit card bill (quite realistic!); the second involves the simultaneous management of the credit card together with other spending. This may prove to be a "stretch" for many students. It is strongly recommended students start with the predefined scenario to familiarize themselves with everything that is going on within this scenario. For many students, the ability to create a scenario of interest and brainstorm how best to manage it offers a powerful opportunity for hands on learning.

1. To explore your own scenario using this simulation, you will need to do the following:

- Record the range (Minimum and Maximum) of monthly credit card use:

Minimum Monthly use: \$\_\_\_\_\_ Maximum Monthly use: \$\_\_\_\_\_

Students need to remember that the simulation randomly selects any number within this range. To record a monthly bill that does not vary from month to month, set the

**Minimum and Maximum Monthly uses at the same amount.**

- Monthly Income (after taxes): \$\_\_\_\_\_
- Regular Non-Credit Card Expenses TOTAL (see below): \$\_\_\_\_\_

Housing Expenses \$\_\_\_\_\_ (payments/rent, maintenance, insurance, taxes, etc.)

Other Living Expenses \$\_\_\_\_\_ (food, phone, internet, TV, utilities, health, clothing, insurance, child care...)

Transportation \$\_\_\_\_\_ (car payments, fuel, insurance, maintenance)

Pay Other Loans \$\_\_\_\_\_ (student, personal)

The brief list of expenses above is a compact version of a larger "Household Budget" form, which is designed to help students visualize monthly expenses (and compare them with income). The larger form is attached at the end of these materials to provide more detailed information to help students use this exercise to more fully understand budgeting.

**2. Explore different monthly payment strategies. Make sure at least ONE is successful. Record results below.**

	Plan 1	Plan 2	Plan 3	Plan 4 (optional)
Monthly Payment Amount:	_____	_____	_____	_____
Was Card Cancelled?	Y / N	Y / N	Y / N	Y / N
Was Savings Exhausted?	Y / N	Y / N	Y / N	Y / N
Interest Paid:	_____	_____	_____	_____
SAVINGS:	_____	_____	_____	_____

**3. Run your preferred payment strategy multiple times to compare different (random) monthly charges. Describe what worked, what didn't, and why.**

Ideally, students will recognize that greater difficulties for managing their personal finances accompany widely varying monthly credit card use. This is yet another powerful reminder of the importance of developing and then staying on a budget.

NOTE: It may be helpful for students working with these simulations to develop a budget that clearly lays out sources of Income (that are added to Savings) and Spending (withdrawn from Savings). See the simple budget form below.

## Building a Monthly Household Budget

**1 Monthly Income**

After Tax Wages \$ \_\_\_\_\_

Interest on Savings \$ \_\_\_\_\_  
 (NOTE: In the simulations, this is automatically calculated)

TOTAL INCOME \$ \_\_\_\_\_

**2 Home Expenses**

Mortgage/Rent \$ \_\_\_\_\_

Additional Home Expenses

- Home Utilities \$ \_\_\_\_\_  
(heat, electric, water, trash, etc.)
- Insurance \$ \_\_\_\_\_
- Taxes \$ \_\_\_\_\_
- Maintenance/Repair \$ \_\_\_\_\_

TOTAL HOME EXPENSES \$ \_\_\_\_\_

**3 Vehicle/Transportation**

Payments \$ \_\_\_\_\_  
(own, rent, public transport)

Additional Car Expenses:

- Insurance \$ \_\_\_\_\_
- Fuel \$ \_\_\_\_\_
- Maintenance/Repairs \$ \_\_\_\_\_

TOTAL TRANS. EXPENSES \$ \_\_\_\_\_

**4 Daily and Other**

- Food/Dining Out \$ \_\_\_\_\_
- Phone, Internet, TV \$ \_\_\_\_\_
- Health/Beauty/Med \$ \_\_\_\_\_
- Clothing \$ \_\_\_\_\_
- Entertainment \$ \_\_\_\_\_

Other Including:

- Childcare \$ \_\_\_\_\_
- Life Insurance \$ \_\_\_\_\_
- Charitable Contributions \$ \_\_\_\_\_
- Emergencies \$ \_\_\_\_\_

TOTAL OTHER EXPENSES \$ \_\_\_\_\_

**5 Credit Card Interest**

Interest charged on Outstanding Credit Card Balance \$ \_\_\_\_\_  
 (NOTE: In the simulations, this is automatically calculated)

ADD UP #2, 3, 4, and 5

TOTAL EXPENSES \$ \_\_\_\_\_

(Where Income exceeds Expenses, there is Savings; where Expenses exceed Income, there is Debt)

## SUMMARY CHALLENGE

Students are encouraged, after completing each of the simulations, to apply what they have learned to explain either how they or others they know can use constructively use Installment Loans to make a purchase they might not otherwise be able to afford with a repayment plan that minimizes interest added. (Suggested written options are included with the handouts.) This challenge requires students to ground their understanding of how the system of Installment Loan interest works with realistic decisions regarding where, when, and how they can responsibly use and enjoy the benefits of these loans. Sharing their plan engages others in constructive discussion of options and choices.

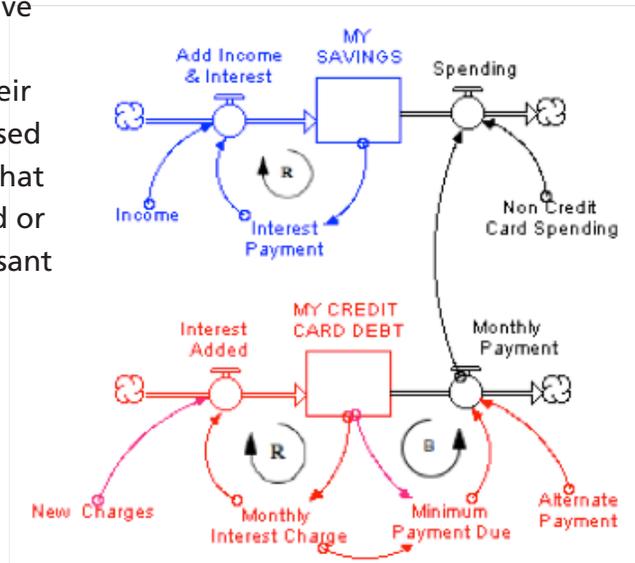
## SUMMARY CHALLENGE HANDOUT with ANSWERS and GUIDES FOR TEACHERS

### Summary Challenge (after completing the lesson)

Pick #1 or #2 and write your answer in the space below (attach GRAPH or TABLE, if desired).

1) Probably the biggest problem people have incorporating credit card expenses into a monthly budget rests with the fact that their bills vary widely from month to month. Based on what you have learned in this lesson, what recommendations would you offer a friend or family member to help them avoid unpleasant problems or surprises?

2) Identify a major and unexpected expense (over \$1,000) for which you, a friend or family member will need to pay using a credit card. Based on what you have learned, how do you recommend that someone both prepare for and respond to this to minimize financial consequences?



In this final exercise, students are challenged to apply what they have learned, by identifying how they personally (or others they know) can address the real world fact that credit card bills vary from month to month.

Credit cards offer convenience and assurance that unexpected and potentially large expenses can be addressed. The challenge involves anticipating these situations rather than reacting to them. Recognizing that interest charged on credit card debt is higher than other loans, and further, that this interest greatly adds to the overall cost of the initial expense, it is important to manage events both by budgeting for them and by maintaining SAVINGS to cover some or all of the costs. An important lesson here is to prepare ahead of time by keeping some reserves available to anticipate unexpected expenses.

Having the means (ideally, with SAVINGS) to address expenses that arise from time to time allows one to minimize the potential danger of incurring substantial interest, while paying down a credit card balance slowly. One can either budget for these events or choose to work within a regular budget that insures some amount of money is placed in SAVINGS most months.

Living within one's means involves being proactive in anticipating potential financial problems and having the resources to address them. A credit card should not be seen as a substitute for saving for variable expenditures.

## Create Your Own Scenario

1. **Open Simulation 1, read the introduction, then record your scenario below.**
  - (a) Outstanding CREDIT CARD DEBT \_\_\_\_\_ Is this (check one) \_\_\_ your first month's charges OR \_\_\_ an unpaid accumulation over time?
  - (b) Specify, if you continue to use the credit card on an ongoing basis, what will your average monthly charges be? \_\_\_\_\_
  - (c) What is your credit card limit? \_\_\_\_\_ (This can range from \$500 for a new user to upwards of \$25,000 or more.)
  - (d) What is the annual interest rate your credit card charges? \_\_\_\_\_ (Rates between 12% and 30% are most common.)
  - (e) Will you pay (check one) \_\_\_ the Minimum Payment Due OR \_\_\_ an alternate monthly amount of (indicate amount) \$\_\_\_\_\_?
2. **Open the simulation CONTROL PANEL (entitled MY CREDIT CARD STATEMENT) and use the yellow boxes to enter the scenario you created. Use Instructions and "?" buttons for help if needed.**
3. **Run the simulation to see what happens. Then, create and explore different strategies and scenarios. Finally, describe below what you have discovered in the process of running the different scenarios.**



## Managing Saving, Spending, and Credit

1. Open Simulation 2, read the introduction, then state your task below.
2. Open the simulation CONTROL PANEL. In the upper yellow box (Credit Card Use) record the "Minimum Monthly" use (\$50) and "Maximum Monthly" use (\$150). In the lower yellow box (Non-Credit Card Finances), specify SAVINGS (\$2,000), "Monthly Income" (\$1,300), and "Non-Credit Card Spending" (\$1,100). Once these values are entered, do not change them: focus only on different payment strategies.

Explore at least THREE (3) different monthly payment strategies, specifying different sums of Pay Fixed Monthly Amount (or Minimum Payment Due). Make sure at least ONE is successful. Record results below.

	Plan 1	Plan 2	Plan 3	Plan 4 (optional)
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Was Savings Exhausted?	Y / N	Y / N	Y / N	Y / N
Interest Paid:	_____	_____	_____	_____
SAVINGS:	_____	_____	_____	_____

3. If any of your payment plans failed, explain why.
4. Choose your preferred payment strategy. To compare different (randomly selected) monthly credit card charges, RUN the simulation FIVE (5) times. Record the best (largest Savings, Lowest Interest Paid) and worst results below.

Using a \$100 Fixed Monthly Payment:

"Best Case"	"Worst Case"
LOWEST Total Interest Paid: _____	HIGHEST _____
LARGEST SAVINGS: _____	SMALLEST _____

5. Finally, run the simulation using the "Pay Whole Bill" option 5 times. What is the difference in these results as opposed to the "Pay Fixed Monthly Amount" results?

6. Now it is time to **EXPLAIN** to others what you have learned from this exercise about managing variable credit card payments. What rule or rules (that underlie your successful strategy) will help others (1) be successful in dealing with varied credit card bills and (2) maximize their **SAVINGS**? Discuss below.
  
7. Care to up the stakes? Raise the maximum monthly credit card bill from \$150 to \$250. How, if at all, does that change anything?
  
8. Feel free to explore other scenarios of personal interest and describe one that you tried below.

## Building Your Own Scenario

**1. To explore your own scenario using this simulation, you will need to do the following:**

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- Monthly Income (after taxes): \$\_\_\_\_\_
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Pay Other Loans \$\_\_\_\_\_ (student, personal)

**2. Explore at different monthly payment strategies. Make sure at least ONE is successful. Record results below.**

	Plan 1	Plan 2	Plan 3	Plan 4 (optional)
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Was Card Cancelled?	Y / N	Y / N	Y / N	Y / N
Was Savings Exhausted?	Y / N	Y / N	Y / N	Y / N
Interest Paid:	_____	_____	_____	_____
SAVINGS:	_____	_____	_____	_____

**3. Run your preferred payment strategy multiple times to compare different (random) monthly charges. Describe what worked, what didn't, and why.**

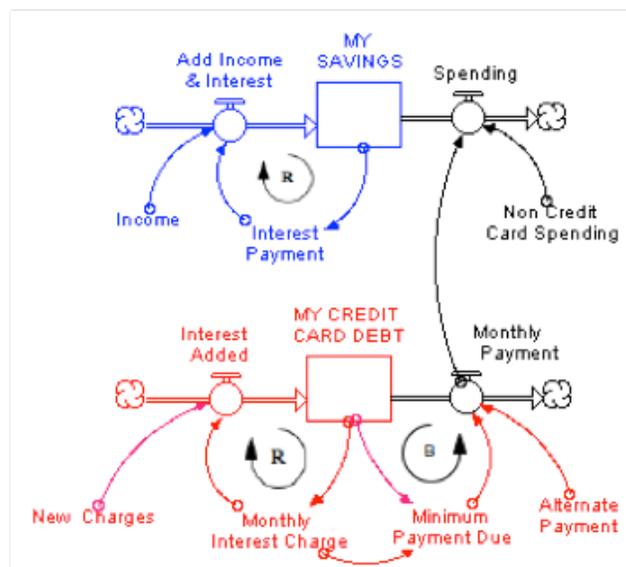


## Summary Challenge (after completing the lesson)

Pick #1 or #2 and write your answer in the space below (attach GRAPH or TABLE, if desired).

1) Probably the biggest problem people have incorporating credit card expenses into a monthly budget rests with the fact that their bills vary widely from month to month. Based on what you have learned in this lesson, what recommendations would you offer a friend or family member to help them avoid unpleasant problems or surprises?

2) Identify a major and unexpected expense (over \$1,000) for which you, a friend or family member will need to pay using a credit card. Based on what you have learned, how do you recommend that someone both prepare for and respond to this to minimize financial consequences?



**Lesson Title(s):**

*Dollars and Sense II*, Lesson 3: How Does a Credit Card Work?

*Dollars and Sense II*, Lesson 5: Managing Credit with Savings and Spending

**Overview:**

The simulations in *Dollars and Sense II* introduce 6<sup>th</sup> – 12<sup>th</sup> grade students to the terminology and basic structures of *compound interest* and how it relates to saving and spending. Later simulations in this series also include *interest payments* on debt. Students become aware of the influence of time in the calculation of interest, both as it helps (in the case of savings) and hurts (in the case of debt).

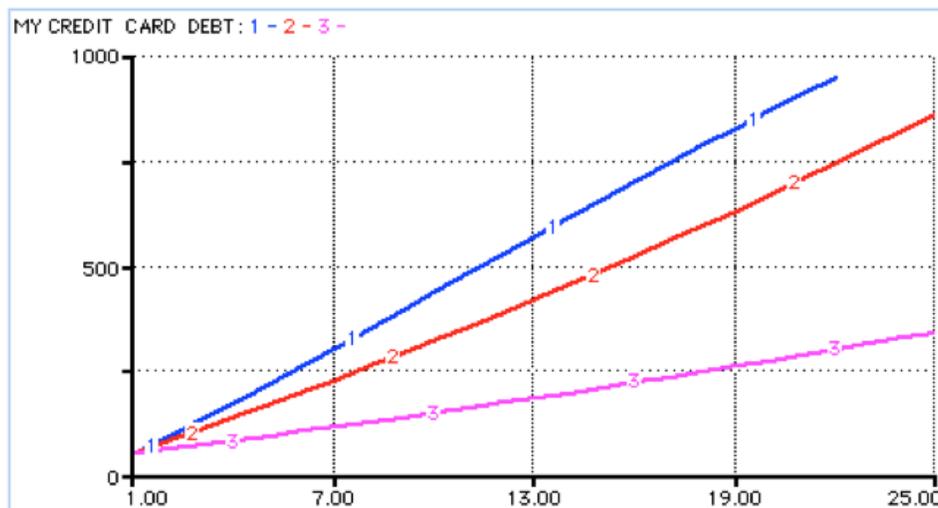
**Related Characteristic(s) of Complex Systems:**

Conflicts arise between short-term and long-term goals.

**Ideas and Examples for Connecting to the Characteristic:**

Lessons 3 and 5 of the *Dollars and Sense II* series provide a platform for understanding credit card use as a form of borrowing (debt) and how to manage the use of such debt in the context of wider savings and spending goals.

Time is an important element in the repayment of debt because interest is charged on the outstanding balance. It is important for students to understand that current consumption paid via debt will *lower future discretionary spending*. This graph (also shown in Lesson 3) illustrates the growth of credit card debt:



The scenario assumes an on-going monthly credit card charge of \$50 and presents three possible repayment options:

- Run 1 Minimum Payment Due (\$10/month – exceed \$1,000 limit in Month 22)
- Run 2 (\$22 Monthly Payment - \$863 Debt after 24 months), paid \$141 in interest)
- Run 3 (\$40 Monthly Payment - \$343 Debt after 24 months, paid \$50 in interest)

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All three choices lead to increasing debt, although Run 3 is considerably better than Run 1. Ask students to think through the “logic” of using a credit card to finance purchases they otherwise could not afford:

1. Assuming income does not increase over the two years of simulation time, is the “person” depicted in this graph better or worse off having bought “stuff” and carrying a debt load of \$300 - \$1,000? Why or why not?
2. If the simulation time were to double to 48 months, would the person be debt-free by that time using any of these simulation runs? Why or why not?
3. If a person wants to spend *above* their means for a period of time, what must happen in the future for him/her to be debt-free again?
4. Why do you think credit card debt is sometimes referred to as a “revolving door of debt?” What do credit card companies do to keep people trapped in debt?

**Resource(s)**

For older students, this resource offers more detailed information about credit cards:

[http://moneytalks4teens.ucdavis.edu/newsltr\\_keys\\_to\\_credit.pdf](http://moneytalks4teens.ucdavis.edu/newsltr_keys_to_credit.pdf)