

# Math Lesson – Opening a Bank Account

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## Outcomes or Learning Goals

- Solve problems drawn from everyday situations involving money (Gr. 9, 10), demonstrating skill and understanding of the use of decimal numbers (Gr. 10)
- Identify, record and monitor daily purchases to determine personal weekly expenditures (Gr. 9)
- Explain the meaning of negative numbers as they apply to money (e.g. a negative amount may mean that you owe money or that you have spent more than you budgeted for); and use them to solve problems involving money (Gr. 10)
- Verbalize their observations and reflections regarding money sense and ask questions to clarify their understanding (e.g. talk about their own and other students' solutions to problems) (Gr. 9, 10)
- Solve problems involving sales tax, discounts, restaurant tips, and commission earnings (e.g. A video game costs \$49.99 before taxes. You have \$60.00. Do you have enough to buy the video game? Justify your answer.) (Gr. 10)
- Solve problems involving fractions and percentages in practical situations (e.g. sales tax, discounts, restaurant tips, and commission earnings) by converting to decimals and using a calculator where appropriate (Gr. 10)
- Investigate and identify possible part-time jobs, determine hourly rates of pay, and calculate possible weekly, monthly and yearly total incomes (Gr. 10)
- Calculate rates in activities drawn from their experiences (e.g. rate of pay) (Gr. 9)
- Solve problems involving fractions and percentages in practical situations (e.g. discount, sales tax) by converting to decimals and using a calculator (Gr. 9)
- Solve problems involving rates (e.g. you make \$7/h. How long will you have to work to make a purchase worth \$150?) (Gr. 9)

## Grade Levels 7-10

This lesson and follow up lessons can be used and adapted for the following courses/contexts:

MAT1L/2L

## Context & Rationale

This math lesson builds on the text *Opening a Bank Account*. One of the immediate personal next steps students should take after opening a bank account is to consider their personal budget. It is also important for students to explore how they can most effectively use bank accounts.

It's anticipated that selecting an account type will be a fairly straightforward process – banks all have their version of a student account. The decisions therefore have to do with how students use their money, and the place to start with this is a personal budget.

### **This lesson provides two prompt sheets:**

- A poster showing how money flows into a bank accounts and then flows out to pay for goods and services
- An annotated, sample budget sheet. This budget sheet supports students in anticipating income and expenses, as well as calculating and reflecting on income and expenses

It is hoped that students will use the forms to independently engage in their own monthly budgeting process. This worksheet is available as a poster and as a spreadsheet so that students can use this as their own electronic planner.

## Related Topics/Units

- Business Studies - This lesson addresses recording transactions, banking and cash management, creating simple balance sheets and decision-making
- Guidance and Career education: This lesson relates to the personal management areas of this curriculum, specifically identifying and improving this particular area of personal management

**Number Sense and Numeration Skills from the Ontario Mathematics Curriculum, Grades 1-8 (2005), that link well to this lesson and would support the needs of limited prior formal learning students are:**

- Add and subtract decimal numbers to hundredths, including money amounts, using concrete materials, estimation, and algorithms (Gr. 5)
- Solve problems involving percent that arise from real-life contexts (Gr. 8)

## Lesson Sequence

Part 1 Minds on/Prior Learning (10 - 15 minutes)	What to Prepare
<p style="text-align: center;"><b>Activity</b></p> <p>Remind students of the book they have read, <u>Opening a Bank Account</u></p> <ul style="list-style-type: none"><li>• Engage students in a discussion about saving money (Who has a bank account? When did they get it, and how do they use it?).</li><li>• How many know what a budget is?</li><li>• Depending on the answer, how many actively do budgeting or have seen their parents doing budgeting activities?</li></ul>	<ul style="list-style-type: none"><li>• Copies of the book</li></ul>
<p style="text-align: center;"><b>Assessment For Learning</b></p> <ul style="list-style-type: none"><li>• Track a variety of aspects related to budget planning, the students' status with respect to banking and budgeting, as well as mathematics progress</li><li>• Take note of who has a bank account, who has tried to budget</li><li>• Make a note of students who will be able to act as helpers, and those who may need additional support</li></ul>	<p>Assessment sheet – this can be used to track some of the information that comes out of the discussion</p>

Part 1 Minds on/Prior Learning (10 - 15 minutes)	What to Prepare
<p style="text-align: center;"><b>Part 2 – Work on it (30 – 40 minutes)</b></p> <p>Activity: Mariam’s Budget</p> <p>1. Show the prompting image (Handout 1) and share this scenario: <i>Mariam has a job, but she has expenses every month.</i></p> <p>a) <u>Income</u> Miriam works in two stores In one store she usually makes \$10.25/hr. and works 18 hours each month In the other store, she usually makes \$10.75/hr. and works 15 hours each month</p> <p>b) <u>Expenses</u> Miriam has some expenses Her transit pass is \$72. She has a cellphone and it costs \$45.55 per month She also buys lunch a couple of days a week, and this costs her about \$10.75 per week Sometimes she needs to buy clothes or other necessary things</p> <p>2. Students use this information to complete Mariam’s monthly budget</p> <p><b>Note:</b> Creating and monitoring their own budget chart independently is the desired outcome of this lesson.</p>	<p><b>Needed:</b></p> <ul style="list-style-type: none"> <li>Multiple copies of Handouts 1, 2, and 3</li> </ul>
<p style="text-align: center;"><b>Assessment</b></p> <p>See the <a href="#">“teacher assessment sheet”</a>. This sheet is a suggestion of fields to track and assess in financial literacy, and can be changed easily</p>	
<p><b>Part 3 – Conclude and Share Solutions (10 minutes estimate for this section)</b></p>	
<p style="text-align: center;"><b>Activity</b></p> <ul style="list-style-type: none"> <li>This will be a whole class format, with groups/individuals presenting how they examined and solved the problem</li> <li>Teacher pulls out strategies from student work, makes explicit the connection between strategies and records key learning (anchor chart, word wall, success criteria)</li> </ul>	

**Part 3 – Conclude and Share Solutions** (10 minutes estimate for this section)

**Follow up**

- Last month - in January - something different happened. In Mariam’s first store she made \$175.55 because she worked overtime. Also, she had to pay \$10 extra for her cell phone
- Her lunches cost her \$65.25 and she bought a pair of jeans for \$45.67
- One day she slept in and had to take a taxi to get to work on time. It cost \$26.50

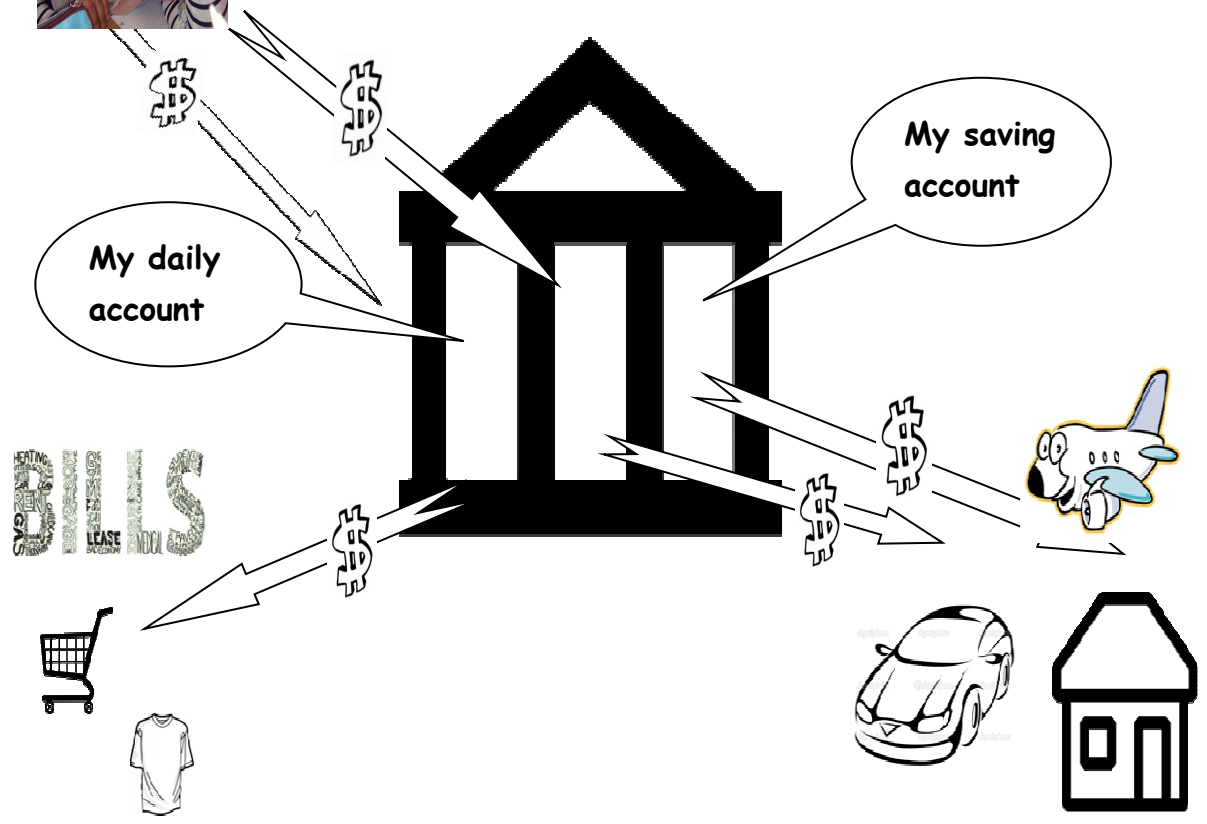
**USE THIS INFORMATION TO COMPLETE HER MONTHLY BUDGET.**

**Other Possible Follow-up Learning Opportunities**

- Students generate their own questions related to budgeting, based on the text
- Commit students to use the budget sheet to do their own budget and follow up after a month
- Where appropriate, encourage students to get their own bank accounts. Consider working with a local bank and planning a field trip if many have a similar need

**Assessment**

See the [“teacher assessment sheet”](#). This sheet is a suggestion of fields to track and assess in financial literacy, and can be changed easily.



### Mariam's Budget

*Mariam has a job, but she has expenses every month.*

**Read this description and enter the numbers in the correct box.**

Miriam works in two stores.

In one store she usually makes \$10.10/hr after taxes and works 15 hours each month.

In the other store, she usually makes \$10.75/hr after taxes and works 18 hours each month.

That's all she makes.

She has some expenses.

Her transit pass is \$106. She has a cell phone and it costs \$45.55 per month.

She also buys lunch a couple of days a week, and this costs her about \$10.75 per week.

Sometimes she needs to buy clothes or other necessary things.

**USE THIS INFORMATION TO COMPLETE HER MONTHLY BUDGET**

## Miriam's Budget

date started 1-Nov-2013 date finished 30-Nov-2013

My account at the beginning of the month:

\$232.22

My assets			My expenses		
Item	Expected	Actual	Item	Expected	Actual
job 1	\$	\$	cell phone	\$	\$
job 2	\$	\$	lunch	\$	\$
			transportation	\$	\$
				\$	\$
				\$	\$
<b>totals</b>	<b>\$</b>	<b>\$</b>	<b>totals</b>	<b>\$</b>	<b>\$</b>
My account at the end		(beginning total+total assets-expenses+saving interest)			
	\$				
Did I save?		How much?	\$		
How well did she predict her assets?			How well did she predict her expenses?		

**Interest she will make on what she saved (saving amount x .0095/12)**

My interest rate 0.95%

My saving interest \$

# Handout 4

## My Monthly Budget Calculator

date started **1-Nov-2013** date finished **30-Nov 2013**

My account at the beginning of the month:

**476.56**

	My Assets		My Expenses		
	Expected	Actual	Item	Expected	Actual
job 1	320.00	325.58	cell phone	55.52	55.52
job 2	450.00	412.55	lunch	80.00	80.00
calling x	25.65	25.65	transportation	110.95	110.95
		35.50	add in other items	255.25	642.42
				45.65	4.25
<b>totals</b>	<b>831.2</b>	<b>799.28</b>	<b>totals</b>	<b>547.37</b>	<b>782.19</b>
My account at the end					
<b>\$1,275.84</b>					

Did I save? **NOT MUCH** How much? **17.09**

Bank account at end of month (starting balance +assets - expenses)

Total assets -- total expenses

Account at beginning of month

Enter date here

Expenses you think you will have

Actual expenses

Add them up

Add each column

What you think you will make

What you actually make

How well did you predict your assets?

How well did you predict your expenses?

How do you think you are doing?

What will your strategy be for next month?



# My Monthly Budget Calculator

date started [ ] date finished [ ]

My account at the beginning of the month: [ ]

By:

My Assets			My Expenses		
Item	Expected	Actual	Item	Expected	Actual
job 1			cell phone		
job 2			lunch		
other			transportation		
			add in other items		
<b>totals</b>			<b>totals</b>		
My account at the end					
<b>Did I save?</b>			<b>How much?</b>		

How well did you predict your assets?

How well did you predict your expenses?

How do you think you are doing?

What will your strategy be for next month?