Chapter 2 Planning Chart

Section Suggested Timing	SectionTeacher's ResourceSuggested TimingBlackline Masters		Materials and Technology Tools
2 Budgets (TR page 44) (15 min)		Diagnostic Assessment (TR page 44)	
Tech Tip: Using the TVM Solver (TR page 46) (30–45 min)	Master 5 TVM Solver Template Tech 1 Using the TVM Solver to Solve a Budget Problem BLM 2–1 Practice Using the TVM Solver		• TVM solver
2.1 Savings Plans (TR page 48) (75–150 min)Tech 1 Using the TVM Solver to Solve a Budget Problem BLM 2–1 Practice Using the TVM Solver		Ongoing Assessment (TR page 50)	 calculator TVM solver Internet access print articles about financial planning (optional)
2.2 Slicing Up the Pie Master 6 Calendar Template(TR page 51) (75–150 min)BLM 2–2 Household and Living Expenses		Ongoing Assessment (TR page 55)	calculatoraccess to computers with spreadsheet software
Tech Tip: Using a Spreadsheet (TR page 56) (75 min)	Tech 2 Using a Spreadsheet in Corel Quattro® Pro 12 BLM 2–3 Practice With Spreadsheets		 access to computers with spreadsheet software interactive whiteboard (optional)
2.3 Track Your Spending (TR page 58) (75–150 min)Master 1 Budget TrackerBLM 2–4 Sample Budget Tracker		Ongoing Assessment (TR page 61)	 calculator student budget tracker access to computers with spreadsheet software
2.4 Living Expenses (TR page 62) (75–150 min)	BLM 2–5 Budget Template 1 BLM 2–6 Budget Template 2	Ongoing Assessment (TR page 64)	calculator Internet access
2.5 Managing Change (TR page 65) (75–150 min)BLM 2–7 Revised Budget Worksheet BLM 2–8 Life Changes That Affect a Budget		Ongoing Assessment (TR page 67)	 calculator access to computers with spreadsheet software (optional)
Chapter 2 Review (TR page 68) (75 min)	Master 2 Chapter Summary BLM 2–9 Chapter 2 Word Search		 calculator TVM solver
Chapter 2 Practice Test (TR page 70) (75 min)	Master 2 Chapter Summary	BLM 2–10 Chapter 2 Test	 calculator TVM solver
Task: Out of Control(TR page 71) (30–75 min)	BLM 2–11 Chapter 2 Task BLM 2–13 Chapter 2 BLM Answers	BLM 2–12 Chapter 2 Task Rubric	• calculator



Budgets (page 51)

SUGGESTED TIMING

15 min

Overall Expectation

B.2 - interpret, design, and adjust budgets for individuals and families described in case studies;

Contributing Expectations

A.1 – collect, organize, represent, and make inferences from data using a variety of tools and strategies, and describe related applications

B.1 - gather, interpret, and compare information about owning or renting accommodation and about the associated costs

What's the Math?

The chapter opener is designed to start students thinking about the need to manage their money. You might start by brainstorming how to avoid the situation in the cartoon. Look for suggestions such as:

- · tracking what you spend money on
- cutting down on spending in other areas
- earning more

Each potential solution requires its own math, including calculating

- fixed payments
- variable expenses
- earnings

These calculations involve estimating, rounding, adding, subtracting, multiplying, and dividing decimals, and, possibly, working with percents.

Activity Planning Notes

Give students several minutes to examine the cartoon and answer the questions. Encourage them to share their answers and to discuss openly. As students provide ideas, you may wish to record and display notes.

Diagnostic Assessment

The discussion with the class should give the teacher a sense of students' general understanding of the need to manage cash flow. Some things to consider include the following.

- Have students or someone they know ever been in this situation?
- Are their comments reasonable?
- Can they determine that the boy is likely paid bi-weekly?

Literacy Link

Provide students with many opportunities to talk and listen as they discuss this cartoon and the related questions. Many will have stories of personal experiences.

Answers (page 51)

- **1.** Answers may vary. Look for explanations as to why he cannot go.
- **2.** Answers may vary. Look for reasonable answers, such as creating a budget or saving money for entertainment.

Tech Tip: Using the TVM Solver (page 52)

SUGGESTED TIMING 30–45 min • TVM solver

BLACKLINE MASTERS

Master 5 TVM Solver Template Tech 1 Using the TVM Solver to Solve a Budget Problem BLM 2–1 Practice Using the TVM Solver

Specific Expectation

B.2.4 – design, with technology and without technology, explain, and justify a monthly budget suitable for an individual or family described in a given case study that provides the specifics of the situation

Speed Bump

- Some students will never have used a TVM solver before.
- Rx You may wish to provide these students with Tech 1 Using the TVM Solver to Solve a Budget
 Problem. Clarify the meaning of each of the variables with them. Working with these students may be the best way to teach how to use the technology. Alternatively, a student who can use a TVM solver with mastery can act as the coach for the novice user.

Accommodations

- Some students may benefit from working in pairs or in a group of three.
- Refer students to **Tech 1 Using the TVM Solver to Solve a Budget Problem** for a more thorough treatment of introductory use of the TVM solver.
- Students who have difficulty with the practice questions could benefit from additional reinforcement such as that on BLM 2–1 Practice Using the TVM Solver. If you provide additional questions, you may wish to have students use the template on Master 5 TVM Solver Template.

What's the Math?

Students work through a Tech Tip which reviews how to use a TVM solver. This is a skill students will continue to use during this course.

Activity Planning Notes

Students who have taken Foundations for College Mathematics, College Preparation (MBF3C), or Mathematics for Work and Everyday Life, Work Preparation (MEL3E), previously should have used the TVM solver extensively. Some students will be able to recall how to use the TVM solver and will be able to move through the instructions independently. Others will benefit from a teacher-led demonstration. Having a TVM solver screen on display will facilitate learning. This Tech Tip can be done with or without direct teacher involvement.

Literacy Link

Financial mathematics and the TVM solver have their own vocabulary. Use the provided glossary of terms and encourage students to create their own definitions of key terms to enhance their understanding.

Answers to Tech Tip Examples (pages 52–53) 1 $N = 12$ $I\% = 3$ $PV = 0$ EV (future value) = 2500	Answers to Tech Tip Practice Questions (pages 52–53)
P/Y = 12, C/Y = 12, PMT = -205.48	1. \$83.25
2. N (number of payments) = 12.17 ,	2. \$274.38
I% (interest rate) = 2.5, PV (present value) = 0, PMT (payment) = -325 , FV (future value) = 4000, P/Y (payments per year) = 12, C/Y (number of times interest is compounded per year) = 12	 3. a) 12.17 b) \$243.75 c) 12.27 d) \$372.30

2.1 Savings Plans (page 54)

SUGGESTED TIMING	MATERIALS	BLACKLINE MASTERS
75–150 min	 calculator TVM solver	Tech 1 Using the TVM Solver to Solve a Budget Problem
	 Internet access print articles about financial planning (optional) 	BLM 2–1 Practice Using the TVM Solver

Specific Expectations

- A.1.7 explain how the media, the advertising industry, and others use and misuse statistics to promote a certain point of view
- **B.2.4** design, with technology and without technology, explain, and justify a monthly budget suitable for an individual or family described in a given case study that provides the specifics of the situation

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Cumu	lative	Keview

- 1. Not counting jokers, how many cards are in a deck of cards?
- 2. How many red cards are there?

- **3.** What is the probability of picking a club from a deck of cards?
- **4.** What is the probability of cutting a deck of cards and getting the 7 of clubs?

Answers to Cumulative Review	3. $\frac{1}{4}$	
1. 52	$4 - \frac{1}{1}$	
2. 26	52	

What's the Math?

Students look at goal setting and then use calculator skills to help them calculate amounts saved or amounts needed to save from each pay period to achieve a goal. A TVM solver is used to solve for values involving an interest bearing account.

Throughout these questions, students review vocabulary such as "gross pay," "net pay," and the terminology involved with using a TVM solver.

Warm Up Notes

When discussing answers with students, stress the mathematical processes at work as well as merely obtaining "the right answer." Wherever appropriate, look for and have students consider multiple representations and multiple strategies for working through questions.

All of these Warm Up questions review concepts learned in grade 11 and earlier. If some students require a calculator for question 2, let them use one. Then, encourage them to attempt question 4 without it. Discuss with students how to do this type of calculation mentally. Have students provide several examples. When might this type of skill help them in real life?

Accommodations

- Students who have difficulty with the Warm Up questions could benefit from additional reinforcement.
- Some students may benefit from working in pairs or in a group of three.

/	
Answers to Warm Up (page 54)	4. a) 23.8
1. 180	b) 11.92 c) 47.392
2. a) 7 b) 12	5. a) present valueb) future value
3. a) 52 b) 26 c) 12	6. PV represents the value of money today. FV represents the value of money at some future date, after interest has been added or other changes have been made to the amount
\backslash	

Activity Planning Notes

Begin with reading the bullets that lead into question 1. For question 1, students can work alone, in small groups, or as part of a class discussion. If computers are available, students can do part c) in class. Alternatively, part c) can be assigned for homework.

Students can complete questions 2 to 4 independently, as these questions cover concepts from grade 11. Encourage students to justify their responses for these questions.

Question 5 can be done using a graphing calculator or with an online calculator. See the Technology Link below for useful online calculator sites. Have students estimate a reasonable monthly payment before using a calculator.

For question 6, students can search for a financial planning article in the library or on the Internet if computers are available. Otherwise, you can provide a reading.

Students should recall definitions of gross pay and net pay from earlier grades. You can use question 7 as a quick assessment of students' ability to apply the concepts in this section.

Conclude the section by having students complete the Check Your Understanding.

Speed Bump

- Some students may have ongoing problems using the TVM solver.
- Rx Work with them through the steps in Tech 1 Using the TVM Solver to Solve a Budget Problem. You may also wish to have them do the additional practice on BLM 2–1
 Practice Using the TVM Solver. If they have already done this worksheet, use the Word file of the BLM to develop questions similar to the ones on the worksheet.

Technology Link

To find sites with suitable online calculators, go to **www.mcgrawhill.ca/books/workplace12** and follow the links to online calculators.

Literacy Link

Use the provided glossary of terms and encourage students to create their own definitions of key terms to enhance their understanding. Having students provide examples and non-examples for each term will increase their understanding.

Answers to Activity Questions (pages 54–57)

- 1. a)-d) Answers will vary. Possible answers include
 - a) moving into an apartmentb) buying new furniture, appliances, decorating
 - suppliesc) A new couch costs approximately \$1500, depending on the quality and the source.
 - **d**) Open a savings account and put money in it each month. Start researching sales and places to buy furniture at a discount.
- 2. a) Jaspreet will save \$60 in 1 month.
 - **b**) She will save about \$360 in 6 months.
 - c) She will save about \$720 in 1 year.
 - **d**) Advantage: She is putting money in her savings regularly. Disadvantage: She is not earning any interest on her savings.
- 3. a) She needs to save \$57.69 if she is paid weekly.b) She needs to save \$115.38 if she is paid bi-weekly.
 - c) She needs to save \$250 if she is paid monthly.

- **4.** a) No, he will only have \$720.**b**) Caleb needs to save \$166.67 each week.
- 5. \$132.23
- 6. Answers will vary.
- **7.** a) March 31: \$24.43, April 14: \$19.21, April 28: \$26.39
 - **b**) On average, Rhys can save about \$46 per month.
 - c) Answers will vary depending on the estimated answer to part b). A reasonable answer is 31.78, that is, 32 months or 2 years and 8 months.

Answers to Check Your Understanding (page 57)

1. Answers will vary. Possible answers should consider Jackson's yearly income (\$11 700). A reasonable amount to save per month if he does not have a lot of other expenses is \$500 per month. If the interest rate is 2.5%, he will have just over \$6000 in 1 year.

Ongoing Assessment

- Check students' ability to make correct calculations.
- Check answers to the Check Your Understanding to make sure that students understand the concepts being addressed.



- Students can write a report on or a review of the financial planning article that they read. Some students may wish to make a presentation to the class.
- Students interested in financial planning may wish to read additional articles and make a presentation to the class about what they have learned, or you may wish to invite a financial planner to speak to the class about saving for long-term goals.

2.2 Slicing Up the Pie (page 58)

SUGGESTED TIMING

75-150 min

MATERIALS

- calculator
- access to computers with spreadsheet software

BLACKLINE MASTERS

Master 6 Calendar Template BLM 2–2 Household and Living Expenses

Specific Expectations

- A.1.8 gather, interpret, and describe information about applications of data management in the workplace and in everyday life
- B.2.1 categorize personal expenses as nondiscretionary or discretionary
- $\ensuremath{\textbf{B.2.2}}\xspace$ categorize personal nondiscretionary expenses as fixed
- **B.2.3** read and interpret prepared individual or family budgets, identify and describe the key components of a budget, and describe how budgets can reflect personal values

Cumulative Review

- **1.** Calculate the length of time needed to save \$500 if you save \$25 per week.
- **3.** How much money can you save in January if you save \$2 per day?
- **2.** List the combinations for rolling an 8 with two dice.

Answers to Cumulative Review

1. 20 weeks

2. (2, 6), (3, 5), (4, 4), (5, 3), (6, 2)

3. \$62

4. Define gross pay.

4. Gross pay is the total amount earned or your income before payroll deductions.

What's the Math?

Students brainstorm household expenses and classify these as essential or non-essential, and fixed or variable. Students calculate percents and totals. The idea of a budget is introduced. Students make calculations concerning monthly spending totals and then analyse situations in order to suggest improvements.

Warm Up Notes

When discussing answers with students, stress the mathematical processes at work, as well as trying to obtain "the right answer." Stress the use of mental mathematics, thinking strategies, and patterning as opposed to having students simply getting the answers using a calculator. Ask:

- What strategy/ies do you use to answer question 1a)?
- How can the same strategies help with the rest of question 1?
- What do you know about 35% as a decimal and a fraction?
- How can you use that information to develop a percent and a decimal for $\frac{9}{10}$?
- How can you use the patterns from the first two parts of question 2 to show 0.08 as a percent and a fraction?

Accommodations

• Students who have difficulty with the Warm Up may benefit from additional reinforcement.

- Would it be useful to put a fraction in lowest terms before showing it as a percent? (Not usually, because it's easier to go from a fraction to a percent if the fraction has a denominator of 100.)
- What pattern do you notice in question 3a)?
- How can you use that pattern to help you answer question 3b) and c)?

It may be beneficial to do question 1a) as an example. Ensure that students understand the question and do not make the common error of calculating 40% of 80.

When completing question 5, discuss how many times a year someone who is paid bi-weekly might receive three pays per month. You might wish to use **Master 6 Calendar Template** and consider how many times someone would be paid in December if they were paid on Fridays and received their first bi-weekly pay on December 3. Have students look at the current annual calendar and figure out how often they might receive three pays a month if they were paid every second Friday, starting on the first Friday of the year. In what months would they receive three pays? Would the same thing happen if they were paid every second Monday?

Ans 1. : 2.	wers to War a) 50% b) 25% c) 12.5% d) 62.5% Answers are i	m Up (page n italics.	58)	 3. a) \$22 b) \$44 c) \$66 4. a) \$21.26 b) \$34.87 5. 2, 3
	Fraction 9 10	Percent 90%	Decimal	6. Depending on the day of the week you are paid, some months will have 4 weeks with that day and some will have 5
	$\frac{10}{35}$	35%	0.35	Some win nave 5.
	$\frac{8}{100}$	8%	0.08	

Activity Planning Notes

Accommodations

- Read instructions aloud to the class, if necessary.
- Break a section down into small chunks. Assign only one or two questions at a time. Take up material in small chunks to ensure students grasp concepts before moving on.

As a class, read the bullets that lead into question 1. For question 1, students can work alone, in small groups, or as a class. If you work with the entire class, you may wish to make **BLM 2–2 Household and Living Expenses** into an overhead to record students' ideas. You may wish to have a student transfer this information to a large wall chart, which you can add to as students find additional household and living expenses during this chapter. Some students may currently live on their own or may have some experience with living expenses. Encourage these students to serve as the class experts.

Questions 2 and 3 meet expectations from this course and review material from grade 11. As question 4 has nine parts, ensure that students logically link the ideas from one part to the next.

The first part of question 5 is practice calculating one number as a percent of another; it may be beneficial to do the first few items as examples. The latter parts of the question reinforce earlier concepts. You may wish to discuss what the percent of income column should ideally add to (100%), and why it added up to 98% (the percents were rounded and not exact).

Since students have been tracking their own spending since the beginning of the course, relate this to the context of question 6. There are many opportunities here to discuss Kaylee's spending and saving patterns and to make suggestions for improvement. For part a), show students that they can check the totals two ways. The sum of the column totals should equal the sum of row totals. For part e), it may be necessary to demonstrate how to calculate an average. Students will recreate their results from parts e) and f) using a spreadsheet.

Discuss the concept of savings as a cushion that allows a better quality of life; the point of savings is to spend a portion of it at a time when your regular income won't cover an expense. As well as saving for specific goals, you also save for unexpected costs.

Conclude the section by having students complete the Check Your Understanding.

Literacy Link

When using a spreadsheet or other software, encourage students to name files so that reading the name of the file will trigger their memory of its contents in a week, a month, or later. As a class, discuss and develop some useful file name protocols. For example, it might be useful for a spreadsheet file name to identify

- the type of information included,
- the current date, and
- for a *Mathematics 12 Workplace and Everyday Life* assignment, the relevant page number.

Have students develop some possible protocols, choose one they like, and then use it.

Speed Bump

- Often, students will attempt to answer questions such as question 4 without fully reading the information or without connecting one part to the next.
- **R**_x Discuss the question before assigning it. Read aloud, if necessary.
- Some students may have little or no experience using a spreadsheet.
- R_x Make sure that these students use Tech Tip: Using a Spreadsheet on pages 64–65. The notes for this Tech Tip, starting on TR page 56, provide additional help for students who are unfamiliar with spreadsheets. It may help to pair stronger students with weaker students. Alternatively, stronger students can work independently while you give teacher-led instruction to a small group.

Answers to Activity Questions (pages 58-63)

- 1. Answers will vary. Possible responses include rent or mortgage, groceries, car payment, phone and cable bills, entertainment, heat, gifts, electricity, water
- 2. Answers will vary. Possible responses include: Essential expenses: rent, mortgage, groceries, heat, phone, electricity, water. Non-essential expenses: car payment, cable, entertainment, gifts.
- **3.** Answers will vary. Possible responses include: Fixed expenses: rent or mortgage, car payment, cable. Variable expenses: groceries, phone, electricity, heat, water, entertainment, gifts.
- **4. a**) \$900
 - **b**) \$765
 - **c)** \$76.50
 - **d**) \$1900
 - **e**) \$1530
 - **f**) \$2295
 - **g**) 20%
 - **h**) 13%
 - i) Answers will vary. Possible responses include insurance, car payments, gas, repairs, and parking. Insurance and car payments are fixed expenses.

5. a), b), d) Answers are in italics.

Item	Amount (\$)	Calculation	Percent of Income	
Rent	635	635 ÷ 2010 × 100	32%	
Food	250	$250 \div 2010 \times 100$	12%	
Daycare	300	300 ÷ 2010 × 100	15%	
Savings	100	$100 \div 2010 \times 100$	5%	
Phone	50	50 ÷ 2010 × 100	2%	
Car loan	115	115 ÷ 2010 × 100	5%	
Car insurance	105	105 ÷ 2010 × 100	5%	
Gas & other car expenses	180	$180 \div 2010 \times 100$	9%	
Gifts, charities	50	50 ÷ 2010 × 100	2%	
Vacation fund	50	50 ÷ 2010 × 100	2%	
Clothing	100	$100 \div 2010 \times 100$	5%	
Entertainment	75	75 ÷ 2010 × 100	4%	
Total	2010		98%	

- c) Essential: \$1835
- Variable: \$855

d) 20 months or 1 year and 8 months

6. a) Answers are in italics.

Week of \rightarrow	October 1–7	October 8–14	October 15–21	October 22–28	
Item \downarrow		Amou	int (\$)		Total (\$)
Lunches	25.00	20.00	19.00	23.00	87.00
Clothes		32.75		45.60	78.35
Mom	20.00	20.00	20.00	20.00	80.00
Going out	18.00	12.00	35.00	32.00	97.00
Phone			44.30		44.30
Miscellaneous	17.54	16.00	20.00	13.50	67.04
Saving	39.46	19.25	-18.30	-3.50	36.91
Total	120.00	120.00	120.00	130.60	490.60

- **b**) The negative amounts mean that Kaylee took money out of her savings instead of putting money into them.
- c) Miscellaneous expenses are ones other than the expenses listed in the chart.
- d) Answers will vary. Possible responses include that Kaylee can take a lunch instead of buying it. She can spend a set amount of money on going out, maybe \$20. Kaylee can put a certain amount of money into savings each week.
- e) Answers are in italics.

Item	4-Week Total	Weekly Average	Percent of Total Income
Lunches	87.00	21.75	18%
Clothes	78.35	19.59	16%
Mom	80.00	20.00	16%
Going out	97.00	24.25	20%
Phone	44.30	11.08	9%
Miscellaneous	67.04	16.76	14%
Savings	36.91	9.23	8%

f)

Percent of Total Income



Answers to Check Your Understanding (page 63)

- **1. a)** Answers will vary. Possible responses include that a circle graph can give you a visual representation of how you spend your money.
- **b**) Answers will vary. Possible responses include that a spreadsheet allows you to see exact numbers side by side.



Create a bar graph using the data from question 6e) and compare it to the circle graph. State advantages and disadvantages for interpreting the data using each graph.

Ongoing Assessment

- Check students' ability to make correct calculations.
- Check answers to the Check Your Understanding to make sure that students understand the concepts being addressed.

Tech Tip: Using a Spreadsheet (page 64)

SUGGESTED TIMING

75 min

MATERIALS

- access to computers with spreadsheet software
- interactive whiteboard (optional)

BLACKLINE MASTERS

Tech 2 Using a Spreadsheet in Corel Quattro® Pro 12 BLM 2–3 Practice With Spreadsheets

Specific Expectations

- A.1.4 represent categorical data by constructing graphs using a variety of tools
- A.1.5 make inferences based on the graphical representation of data, and justify conclusions orally or in writing using convincing arguments
- **B.2.4** design, with technology and without technology, explain, and justify a monthly budget suitable for an individual or family described in a given case study that provides the specifics of the situation

What's the Math?

This Tech Tip introduces students to creating charts using a spreadsheet.

Activity Planning Notes

• Some students will never have used a spreadsheet before.

Speed Bump

 $\mathbf{R}_{\mathbf{x}}$ A one-on-one tutorial may be the best means of teaching how to use the technology.

• Some students may want to learn how to do this in Corel Quattro® Pro.

 Rx
 Provide them with Tech 2 Using a Spreadsheet in Corel Quattro®

 Pro 12.

Accommodations

- Some students may benefit from working in pairs or in a group of three.
- Students who have difficulty with the exercise could benefit from additional reinforcement such as that on BLM 2–3 Practice With Spreadsheets.

Students should have used spreadsheet software in previous courses. Some students will be able to recall how to use a spreadsheet. Thus, some will be able to move through the instructions independently while others will benefit from having a teacher-led demonstration. Reviewing the basics of spreadsheet use on an interactive whiteboard will facilitate learning.

If your school uses Corel Quattro® Pro, you may wish to hand out **Tech 2 Using a Spreadsheet in Corel Quattro**® **Pro 12** to do this activity.

Literacy Link

A review of terms such as "format," "row," or "column" may be beneficial to some. Some students may never have seen the symbol for sum, Σ , and will need it explained.



c) Answers will vary. Encourage students to notice the different ways that circle graphs can appear, as well as the other different graph formats.

2.3 Track Your Spending (page 66)

SUGGESTED TIMING

75-150 min

MATERIALS

- calculator
- student budget tracker
- access to computers with spreadsheet software

BLACKLINE MASTERS

Master 1 Budget Tracker BLM 2–4 Sample Budget Tracker

Specific Expectations

- A.1.3 collect categorical data from primary sources, through experimentation involving observation or measurement, or from secondary sources, and organize and store the data using a variety of tools
- A.1.4 represent categorical data by constructing graphs using a variety of tools
- A.1.5 make inferences based on the graphical representation of data, and justify conclusions orally or in writing using convincing arguments
- A.1.8 gather, interpret, and describe information about applications of data management in the workplace and in everyday life
- B.2.1 categorize personal expenses as nondiscretionary
- B.2.2 categorize personal nondiscretionary expenses as fixed
- **B.2.3** read and interpret prepared individual or family budgets, identify and describe the key components of a budget, and describe how budgets can reflect personal values
- **B.2.4** design, with technology and without technology, explain, and justify a monthly budget suitable for an individual or family described in a given case study that provides the specifics of the situation
- B.2.6 make adjustments to a budget to accommodate changes in circumstances

Cumulative Review

- **1.** Estimate the average of \$100, \$150, \$200, and \$250.
- **2.** Calculate the average of \$100, \$150, \$200, and \$250.
- **3.** What date is the next payday for a bi-weekly employee paid on September 20?
- **4.** How much would an employee earning \$12/h earn in a 40-hour week?

Answers to Cumulative Review

- October 4
 \$480
- **1.** Answers will vary. Estimates should be between \$150 and \$200.
- **2.** \$175

What's the Math?

Students have used **Master 1 Budget Tracker** to keep track of their expenses since the course began. In this chapter, they work with the data they have collected. Many of the math skills from the earlier sections are used as students analyse their own spending habits. Students look at how to achieve personal goals using a budget and consider making changes to their current spending patterns.

Warm Up Notes

Encourage discussion and the sharing of ideas.

In question 1, consider the frequency with which many people eat out instead of preparing food at home. Some students will call eating out "food" and some will call it "entertainment." Discuss advantages and disadvantages of both answers.

Question 4 can be attempted without using a calculator. Discuss with students several strategies for adding the numbers mentally. For example:

- Add the 10s first. (\$130 + \$20 = \$150.) Then add the 1s. (\$4 + \$6 = \$10.) The total is \$160.
- Add a number by its number of 10s. (\$29 = \$10 + \$10 + \$9.
 \$56 + \$10 + \$10 = \$76.
 \$9 is \$1 less than \$10, so the total is \$76 + \$10 \$1 = \$85.)

Students can use a calculator, if necessary, to confirm mental arithmetic skills.

Accommodations

• Students who have difficulty with the Warm Up may benefit from additional reinforcement.

Answers to Warm Up (page 66)	3. You know where and what you spend your money
1. Answers will vary.	on.
2. Answers will vary. Possible responses include going to the movies, eating at restaurants, and shopping.	 4. a) \$160 b) \$93 c) \$85

Activity Planning Notes

Depending on students' experience with money and budgeting, the discussions started in the Warm Up will set up the rest of the section. Including your thoughts will add to the discussion. Introduce the concept of savings into the discussion. Who saves? How much? Have students note that savings can be considered to be an expense for now, as it is money that cannot be spent on other things.

Students who are proficient with using a spreadsheet may be able to skip question 4. The advantage of doing questions 4 to 6 is that they provide students with a tool for analysing their own expenses and considering how they might change their spending habits. It may be useful for students to develop this tool in preparation for when they need it.

Encourage students to consider an actual planned purchase for question 7.

Throughout this section, encourage discussion between students and the sharing of ideas.

While the Check Your Understanding is to be completed one month from now, it can be discussed and reviewed on a regular basis during the month.

Accommodations

- Read instructions aloud to the class, if necessary.
- Some students may benefit from working in pairs or in a group of three.

Speed Bumps

- Some students have no income.
- R_x They can still participate in some of the activities. BLM 2–4 Sample Budget Tracker provides some sample expenses that teens may have. Alternatively, they could work with a partner who has money and use that person's budget tracker results to answer the questions. These students may also have goals that they can research for question 7. It's important for them to learn the tools in this section for later use.

Literacy Link

Comparison shopping is an important budgeting tool. Encourage students to consider the different ways of pricing items: checking print catalogues, visiting stores, doing online research, listening to word of mouth. Have them list the different ways they researched the cost of the item for question 7, what the item cost from each source, any additional costs (e.g., delivery costs, duty), and various pluses of buying from certain sources (e.g., some stores provide a free warranty for a specific period).

Answers to Activity Questions (pages 66–69)

- **1. a**) Answers will vary. Possible responses include rent, groceries, car payment, gas, insurance, and utility bills.
 - **b**) Answers will vary. Possible responses include entertainment, eating out, and gifts.
- **2.** a), b) Answers will vary. Possible responses include phone, cable, and car.
- 3. Answers will vary. Possible responses include
 - a) rent, car payments, insurance, phone bill, cable bill, heat, hydro, water
 - b) rent, car payments, insurance, cable bill
 - c) phone, heat, hydro, water
- 4. Answers will vary. Possible responses include:

	Nov.	Nov.	Nov.	Nov.	
Week of	1–7	8–14	15–21	22–28	
Category		Amou	unt (\$)		Total
Rent	\$150	\$150	\$150	\$150	\$600
Groceries	\$62	\$51	\$58	\$49	\$220
Car payment	\$100	\$100	\$100	\$100	\$400
Car insurance	\$45	\$45	\$45	\$45	\$180
Gas	\$50	\$40	\$56	\$47	\$193
Phone and cable	\$100	\$108	\$147	\$98	\$453
Entertainment	\$52	\$74	\$32	\$61	\$219
Total	\$559	\$568	\$588	\$550	\$2265

5. a)-d) Spending by Category



- e) Answers will vary. Possible responses include: I could reduce my spending on phone and cable.
- f) Answers will vary. Possible responses include: I would like to increase my spending on entertainment.
- **6. a)** Answers will vary. Possible responses include: I don't have any savings; I would like to add that to my budget.
 - **b**) Answers will vary. Possible responses include: I will look for a cheaper place to live, reduce my phone and cable bill, and add a savings account and put \$20 per week in it.
- 7. Answers will vary. Possible responses include:
 - a) I want to go on vacation to Cuba. It will cost about \$1000.00.
 - **b**) I could spend less on entertainment, or my cable bill.
 - **c**) \$25
 - **d**) 10 months
- 8. Answers will vary. Possible responses include:b) To go on vacation.
 - c) I plan to open a savings account and put \$25 per paycheque in it. I will save the money by packing my lunch more often.

Answers to Check Your Understanding (page 69)

- 1. Answers will vary.
- 2. Answers will vary.

Challenge!



Students can advise a peer who is having trouble budgeting by doing questions 4 to 6 using that student's budget tracker and providing suggestions to help the person adjust spending to save for something.

Ongoing Assessment

· Check students' ability to participate in discussions, explain their reasoning, and use a spreadsheet correctly.

2.4 Living Expenses (page 70)

SUGGESTED TIMING

75-150 min

MATERIALS

- calculator
- Internet access

BLACKLINE MASTERS

BLM 2–5 Budget Template 1

BLM 2–6 Budget Template 2

Specific Expectations

- A.1.8 gather, interpret, and describe information about applications of data management in the workplace and in everyday life
- B.2.1 categorize personal expenses as nondiscretionary or discretionary
- B.2.2 categorize personal nondiscretionary expenses as fixed or variable
- **B.2.3** read and interpret prepared individual or family budgets, identify and describe the key components of a budget, and describe how budgets can reflect personal values
- **B.2.4** design, with technology and without technology, explain, and justify a monthly budget suitable for an individual or family described in a given case study that provides the specifics of the situation
- **B.2.5** identify and describe factors to be considered in determining the affordability of accommodation in the local community
- B.2.6 make adjustments to a budget to accommodate changes in circumstances, with technology

Cumulative Review

- **1.** List the months that have exactly 30 days.
- 3. How much time is between 6:30 a.m. and 6 p.m.?4. What is the average of \$50, \$50, and \$150?
- **2.** Calculate the annual earnings of someone who earns \$500 per week.

Answers to Cumulative Review Questions	3. $11\frac{1}{2}$ h	
1. April, June, September, November	4. \$75	

2. \$25 000 (50 weeks) or \$26 000 (52 weeks)

What's the Math?

If Internet access is available, students can look online at existing budget templates and select one for personal use. Two sample budget templates are provided in the Blackline Masters for use in classrooms without Internet access.

Students use a budget template to assess items that apply to their current living conditions and those that might apply to possible future living conditions. Students also consider the budgets and expenses of others and make calculations related to those budgets.

Warm Up Notes

When discussing answers with students, stress the mathematical processes at work as well as merely obtaining "the right answer." Stress the use of mental mathematics, thinking strategies, and patterning as opposed to having students simply getting the answers using a calculator.

Before students attempt question 4, review some of the mental math strategies for adding that you discussed in the previous section.

Accommodations

• Students who have difficulty with the Warm Up may benefit from additional reinforcement.

4. \$400
5. Answers will vary. Possible responses include rent/
mortgage and car payment.
6. Answers will vary. Possible responses include groceries and hydro.

Activity Planning Notes

The first part of this section gives students the opportunity to look at a number of readily available online budget templates. Encourage students to save electronic copies of templates that they find easy to use or applicable to their current life situation. If your classroom does not have Internet access, have students discuss the sample templates on **BLM 2–5 Budget Template 1** and **BLM 2–6 Budget Template 2**.

For question 2, students could write down actual or estimated values for each of the items selected from the template.

Questions 3 and 4 are examples of someone who is using a simple monthly budget and someone who is not. You may wish to discuss the difference with students and have students categorize their own budget situation as simple or more complex.

Conclude the section by having students complete the Check Your Understanding.



workplace12 and follow the links.

Accommodations

• It may be beneficial to work through question 3 as a group and then assign question 4.

Speed Bumps

- · Some students have no income.
- $\mathbf{R}_{\mathbf{x}}$ Students without income can complete question 2 for someone they know or someone that they live with.

Literacy Link

Online budget templates, or the one used in question 2, may include a number of terms that students are unfamiliar with. Review these terms to ensure student understanding. Students can write their own definitions for these terms.

Answers to Activity Questions (pages 70–73)

- 1. Answers will vary.
- 2. Answers will vary. Possible responses include:
 - a) rent, groceries, cable, utilities, DVD rentals, phone, movies, Internet, dining out, concerts/ clubs, clothing, music, gifts, public transit, salon, sports equipment
 - **b**) car payments, fuel, insurance, repairs, savings account
 - c) Essential expenses: mortgage/rent, groceries, utilities, property tax, phone; Non-essential expenses: DVD rentals, dining out, concerts/clubs, books, movies/plays
 - d) Fixed expenses: mortgage/rent, car payments, cable, child care, insurance;
 Variable expenses: groceries, utilities, fuel, prescriptions, dining out
- 3. a) \$602.70
 - **b**) \$575
 - **c)** \$27.70
 - **d**) Stephanie has \$27.70 left over every month after paying for all of her expenses.

Ongoing Assessment

- Check students' ability to make correct calculations.
- Check answers to the Check Your Understanding to make sure that students understand the concepts being addressed.
- Note participation in discussions and the nature of the comments made.



- **b**) Answers will vary. Possible responses include that gas should decrease as the weather gets warmer.
- c) Answers will vary. Possible responses include: groceries, water, entertainment, public transit, sports equipment or teams, prescriptions, savings.
 d) \$590

Answers to Check Your Understanding (page 73)

- Answers will vary. Possible responses include:
 a) child care, toys, and baby furniture
 b) Spand less on antartainment
 - **b**) Spend less on entertainment.



Students can create a spreadsheet for the situations in questions 3 and 4.

2.5 Managing Change (page 74)

SUGGESTED TIMING

75–150 min

MATERIALS

- calculator
- access to computers with spreadsheet software (optional)

BLACKLINE MASTERS

BLM 2–7 Revised BudgetWorksheetBLM 2–8 Life Changes ThatAffect a Budget

Specific Expectations

- A.1.8 gather, interpret, and describe information about applications of data management in the workplace and in everyday life
- B.2.1 categorize personal expenses as nondiscretionary or discretionary
- B.2.2 categorize personal nondiscretionary expenses as fixed or variable
- **B.2.3** read and interpret prepared individual or family budgets, identify and describe the key components of a budget, and describe how budgets can reflect personal values
- **B.2.4** design, with and without technology, explain, and justify a monthly budget suitable for an individual or family described in a given case study that provides the specifics of the situation
- B.2.6 make adjustments to a budget to accommodate changes in circumstances with technology

Cumulative Review

- **1.** List the months that have exactly 31 days.
- **3.** State 2 expenses that are usually considered fixed expenses.
- **2.** What is the next payday for someone paid bi-weekly on December 23?
- **4.** State 2 expenses that are usually considered non-essential expenses.

Answers to Cumulative Review Questions

- 1. January, March, May, July, August, October, December
- 3. Answers will vary.
- 4. Answers will vary.

2. January 6

What's the Math?

Students are introduced to the term "balanced budget." Students make calculations of income and expenses to determine if a budget is balanced. Students make numerous decisions and calculations as they look at how changing income levels (both negative and positive changes) necessitate changes to one's budget in order to keep it balanced.

Accommodations

Students who have difficulty with the Warm Up questions could benefit from additional reinforcement.

Warm Up Notes

Estimating answers for questions 1 to 3 prior to calculating will help students judge the reasonableness of calculator-generated answers. Discuss with students various strategies for doing this, such as

- For question 1, consider that \$14.50 is about \$10 + \$5. In two weeks, George would work 72 hours. Approximate that to 70 hours. 70 hours at \$10 per hour would earn \$700. Add half of that to get the approximate wage. 700 + 350 = 700 + 300 + 50 = 1050.
- For question 2, have students consider about one-fifth of the amount. About one-fifth of \$1050 is \$200, so 80% would be about \$800.
- For question 3, George would make about \$1600 per month. So he would have between \$100 and \$200 left.

Encourage students to report other strategies they use.

Answers to Warm Up (page 74) **1.** \$1044

2. \$835.20

Speed Bump

Some students will struggle to do the number of calculations required in this section.

R Pair weaker students with stronger students. Alternatively, construct a spreadsheet template for questions 2 to 4 as a class so that students can enter data while the spreadsheet performs the necessary calculations. BLM 2-7 Revised Budget Worksheet would also be helpful for these students.

3. \$220.40

4. Answers will vary. Possible responses include a minimum of 10% of his net income, so he should save at least \$167 per month.

Activity Planning Notes

The first part of this section introduces the notion of a balanced budget. Question 1 may be done as a demonstration, illustrating what a balanced budget is, and how Luca has one. It may also be necessary to do question 2 as a whole class activity. Stress the importance of keeping a running total of how much money is left to spend (the Remaining Income column).

Assign question 3 to be done individually or in small groups. Discuss the results before moving to question 4.

Some students may find it helpful to use BLM 2-7 Revised Budget Worksheet when doing question 4d). This worksheet will allow them to keep their information all on one sheet. Discuss the results of question 4d) and stress that there is no clear-cut answer. There are a number of possible outcomes that will make sense. Reinforce the idea that a well constructed budget allows for flexibility and for managing change.

Conclude the section by having students complete the Check Your Understanding. You may wish to make an overhead of BLM 2-8 Life Changes That Affect a **Budget** for this discussion. On the mind map, put the life changes on the first level and suggestions for adjusting the budget on the second level.

Literacy Link

The only new term in this section is "balanced budget." Ensure that students have learned the terms introduced in earlier parts of the chapter.

Answers to Activity Qu 1. a)–c) Answers are in	estions (pages 74 italics.	-77)
Income (\$)	Expenses (app	oroximate \$)
\$125	Savings	\$200
\$125	Car insurance	\$125
\$125	Gas	\$75
\$125	Entertainment	\$100
Total Income = <i>\$500</i> Total Expenses = <i>\$500</i>		
Monthly Balance (Inco	ome – Expenses)	= \$0
 d) balanced; income; 2. a) and c) Answers w b) \$1700 	expenses ill vary.	
 3. a) \$1500 b) rent, transit pass, l c) groceries, phone, of membership d) Answers will vary 	oan cable, gas, hydro,	gym

e) Answers will vary. Possible responses include that Bill might have to find a cheaper place to live or reduce his loan payment.

Challenge!

Try This!

Students can create a spreadsheet for the balanced budget for Bill they created in question 4d).

4. a) \$528

- **b**) \$2112; \$2640
- c) Answers will vary. Possible responses include that Bill could start a savings account, contribute to RRSPs, or increase his loan payment to get it paid off more quickly.
- **d**) Answers will vary. Make sure that the budget is balanced.

Answers to Check Your Understanding (page 77)

1. Answers will vary. Possible responses include:

- If you get married or move in with a roommate, you could put more money in savings since you'll be sharing the rent and utilities.
- If you have a baby, you could reduce non-essential expenses because your essential expenses will increase.

Ongoing Assessment

- Check students' ability to make correct calculations.
- Check answers to the Check Your Understanding to make sure that students understand the concepts being addressed.
- Note student participation in discussions and the nature of the comments made.

Chapter 2 Review (page 78)

SUGGESTED TIMING

75 min

MATERIALS

- calculator
- TVM solver

BLACKLINE MASTERS

Master 2 Chapter Summary BLM 2–9 Chapter 2 Word Search

Using the Chapter Review

Encourage students to read through the review before they attempt any of the review questions. Students should be able to work through the review at their own pace. You may wish to suggest that students follow the strategy outlined below when completing the chapter review.

- 1. First, complete any questions that you can do unassisted.
- **2.** Next, do the questions that you understand but may need to refer back to notes or similar questions earlier in the chapter to complete.
- **3.** Ask a classmate for help.
- **4.** Ask the teacher for help.

Some students may need to do the review in chunks. For example, have students do question 2a), and then take it up. Then, have them do 2b). This process will eliminate the problem of students rushing through and completing many questions incorrectly.

Re-teach concepts and/or procedures as necessary.

To provide additional reinforcement of the glossary words for this chapter, have students complete **BLM 2–9 Chapter 2 Word Search**.

Review Guide

Question	Section(s)	Refer to
1	2.1	Planning for the Future (page 55, #3)
2	2.1	Planning for the Future (pages 56–57, #5 and #7)
3	2.2	Managing Your Money (page 59, #2 and #3)
4	2.4–2.5	Using Your Budget Template (page 72, #3) Developing a Balanced Budget (page 77, #4)

Students may benefit from making a chapter summary page that summarizes some of the key ideas/

Accommodations

- skills from the chapter. Master 2 Chapter Summary provides an outline for this work.
 Encourage students to highlight key
- words and key bits of information contained in each question.
- When students have difficulty on a particular review question, use the Review Guide to identify the section they need to review.
- You may wish to provide students with additional reinforcement of the questions in this section before moving on to the Practice Test.
- Some students can skip the Practice Test and move directly to the Chapter Task.

Answers to Chapter 2 Review (pages 78–79)

1. a) \$48.08 b) \$96.15

- **2.** a) 19.54 monthsb) \$657.55
- **3.** Answers will vary. Possible responses include:**a)** rent/mortgage, car payment
 - **b**) groceries, gas bill
 - c) dining out, gifts
 - d) rent/mortgage, groceries
- **4. a**) \$346.64
 - **b**) \$325
 - **c)** \$21.64
 - **d**) You have a balanced budget when your income equals your expenses.

e) \$170

f) Answers will vary. An example is shown below. The budget should be balanced and realistic figures should be used.

Item	Cost	Remaining Income
Save for own car	0	\$170
Spending money	\$50	\$120
Car insurance	\$40	\$80
Clothes	\$20	\$60
Cell phone	\$20	\$40
Gas	\$40	0

Chapter 2 Practice Test (page 80)

SUGGESTED TIMING

75 min

MATERIALS

- calculator
- TVM solver

BLACKLINE MASTERS

Master 2 Chapter Summary

BLM 2–10 Chapter 2 Test

Accommodations

- If they have not already done so, students may benefit from making a chapter summary page that summarizes some of the key ideas/ skills from the chapter. Use Master 2 Chapter Summary.
- Encourage students to highlight key words and key bits of information contained in each question.
- When students have difficulty on a particular review question, use the Study Guide to identify the section they need to review. You may wish to provide them with additional reinforcement of the questions in this section before moving on to the Chapter Task.

Summative Assessment

• Have students complete **BLM 2–10 Chapter 2 Test**. Alternatively, students could be assessed using the Chapter Task.

Using the Chapter Practice Test

As in the chapter review, encourage students to read through the practice test before they attempt any of the questions. Students should be able to work through the test at their own pace. You may wish to suggest that students follow the same strategy as for the chapter review. Remind them that a test is a time to show what they know. That's why it's important to do the questions they feel confident of first.

Re-teach concepts and/or procedures as necessary.

Study Guide

Question	Section(s)	Refer to
1	2.1	Planning for the Future (page 55, #3)
2	2.2	Managing Your Money (page 59, #2 and #3)
3	2.4–2.5	Using Your Budget Template (page 72, #3) Developing a Balanced Budget (page 77, #4)
4	2.1	Planning for the Future (pages 56–57, #5 and #7)

Answers to Chapter 2 Practice Test (pages 80–81)

- **1.** a) \$153.85**b**) \$76.92
- 2. Fixed expenses: car payments, gym membership, bus pass, rent, car insurance; Non-essential expenses: gym membership, lottery tickets, digital cable TV, golf clubs

3. a) \$559.68

- **b**) \$560
- **c**) -\$0.32
- **d**) You have a balanced budget when your income equals your expenses.
- **e**) \$410

Item	Cost	Remaining Income
Car insurance	\$110	\$300
Money to Mom	\$100	\$200
Gas	\$80	\$120
Spending money	\$40	\$80
Clothes	0	\$80
Cell phone	\$40	\$40
Savings	\$40	0

4. a) 29.3 months

b) \$245.24

c) Answers will vary. A reasonable response is that fixing the roof is an essential expense because if you let water leak in, you will have more damage in the future and it will cost more to fix.

Task: Out of Control (page 82)

SUGGESTED TIMING

30–75 min

MATERIALScalculator

BLACKLINE MASTERS

BLM 2–11 Chapter 2 Task BLM 2–12 Chapter 2 Task Rubric BLM 2–13 Chapter 2 BLM Answers

Specific Expectations

A.1.8 – gather, interpret, and describe information about applications of data management in the workplace and in everyday life

- **B.1.4** gather, interpret, and compare information about the different types of ongoing living expenses associated with renting and owning accommodation and related costs
- **B.2.1** categorize personal expenses as nondiscretionary or discretionary
- **B.2.2** categorize personal nondiscretionary expenses as fixed or variable
- **B.2.3** read and interpret prepared individual or family budgets, identify and describe the key components of a budget, and describe how budgets can reflect personal values
- **B.2.4** design, with and without technology, explain, and justify a monthly budget suitable for an individual or family described in a given case study that provides the specifics of the situation
- B.2.6 make adjustments to a budget to accommodate changes in circumstances with technology

Activity Planning Notes

The Task page in the student resource provides opening content for a longer Task that is scaffolded on **BLM 2–11 Chapter 2 Task**.

You may wish to make an overhead of page 82 to help in the class discussion of the Task. Read the situation aloud. Discuss and have students answer all questions. Most of the questions on the Task page in the student resource have more than one possible answer. This page should be used to elicit discussion and to ensure student understanding of the full Task that they will receive on **BLM 2–11 Chapter 2 Task**. To assist students with question 1, you may wish to hand out the first page of **BLM 2–11 Chapter 2 Task**, which provides scaffolding for this. Student work on the student resource page should not be assessed.

Hand out **BLM 2–11 Chapter 2 Task**. Take some time to read and discuss the full Task with students. Encourage students to provide reasoning and to show their calculations for their answers. Remind them to refer back to notes or earlier sections for help if they forget how to do something.

Accommodations

- Some students may need to refer to their workbook and/or chapter notes.
- Encourage students to highlight key words and key bits of information contained in each question.

Summative Assessment

Use **BLM 2–12 Chapter 2 Task Rubric** to assist you in assessing student work on this Task.

Answers to Task (page 82)

- **1.** Answers will vary. At the end of the month, Terry should be in debt.
- **2.** Answers will vary. Possible responses include that Terry should sell his golf membership and/or his house, and/or get a part-time job to help him make more money.