

Chapter 2 Planning Chart

Section Suggested Timing	Teacher's Resource Blackline Masters	Assessment Tools	Materials and Technology Tools
2 Net Income and Purchasing Power (TR page 23) (15 min)		Diagnostic Assessment (TR page 23)	
2.1 Net Income and Deductions (TR page 25) (110–150 min)	Master 1 Fractions, Decimals, and Percents SP BLM2 Fractions and Percents BLM 2–1 Gross Pay and Net Pay Survey BLM 2–2 Income Ranges and Taxes	Ongoing Assessment (TR page 28)	<ul style="list-style-type: none"> • calculator • federal payroll deduction tables • Internet access (optional) • analog clock (optional) • money manipulatives (optional)
2.2 Approximating Net Income (TR page 29) (150–225 min)	SP BLM3 Reading EI Tables BLM 2–3 Net Pay for Annual Gross Pay	Ongoing Assessment (TR page 32)	<ul style="list-style-type: none"> • calculator • federal payroll deduction tables • Internet access • ruler (optional)
2.3 Net Income and Personal Expenses (TR page 33) (75 min)	BLM 2–4 Classifying Expenses	Ongoing Assessment (TR page 35)	<ul style="list-style-type: none"> • calculator
2.4 Purchasing Power and Living Standards (TR page 36) (75 min)	BLM 2–5 Calendar of Expenses	Ongoing Assessment (TR page 38)	<ul style="list-style-type: none"> • calculator • coloured pencils (optional)
Chapter 2 Review (TR page 39) (75 min)	BLM 2–6 Chapter 2 Word Puzzle BLM 2–7 Chapter 2 Practice Test	BLM 2–8 Chapter 2 Final Test	<ul style="list-style-type: none"> • calculator
Task: Monthly Spending Plan (TR page 41) (45–75 min)	BLM 2–9 Chapter 2 Task BLM 2–11 BLM Answers	BLM 2–10 Chapter 2 Task Rubric	<ul style="list-style-type: none"> • calculator

CHAPTER 2

Net Income and Purchasing Power

(page 35)

SUGGESTED TIMING

15 min

Overall Expectations

EPV.02 – demonstrate an understanding of payroll deductions and their impact on purchasing power

What's the Math?

The focus of this chapter is net income versus gross income. Students begin with a gross income and calculate the amount of different deductions that will be taken off, resulting in net income. They use percents and fractions to calculate the sums deducted as well as calculating net income as a percent of gross income. Students combine their understanding of net income with budgeting decisions and think about fixed versus variable expenses. Overall, the concept of purchasing power is introduced as how able people are to buy what they want when they want.

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. Many students will have work experience and will understand that there is often a difference between the amount of money they earn and the amount of money actually received in a pay cheque. Also, many students will understand that it takes time to save up for a major purchase such as a car. As students provide ideas, you may wish to record some notes on the chalkboard or an overhead.

Speed Bump

- Some students do not have job experience and may not wish to enter the discussion.
- R_x** Students might be willing to discuss why the person in the cartoon feels hopeless about obtaining a car.

Diagnostic Assessment

The discussion with the class should continue to give you a sense of students' general understanding of money and work. Some things to consider are:

- Do they have knowledge that take-home pay may be less than total earnings?
- Are their comments about possible advice reasonable?
- What types of math skills do students think the person in the cartoon needs?

Questions 1 and 2 will help you gauge students' overall understanding of gross and net pay. Questions 3 and 4 will help you determine how well students understand the ideas of budgeting and purchasing power.

Literacy Link

Provide students with many opportunities to talk and listen as they discuss this cartoon and the related questions. Some students may wish to share stories of personal experiences. Ask if they have been involved in budgeting for a major purchase, either for themselves or for their families. Have they ever had to keep track of their expenses? Brainstorm a list of steps that must be considered when deciding on a major purchase.

Answers (page 35)

1. He does not understand that there are often a number of payroll deductions and that expecting his cheque to be for the total earnings amount may not be reasonable.
2. Answers will vary. Students may advise that he discuss the pay stub with someone who has working experience. This will help him realize that the cheque is likely for the correct amount.
3. Answers will vary. Adding the deductions and subtracting that amount from the total earned will be a common answer.
4. Yes, but he will have to budget and plan his spending carefully to meet his goal.

2.1 Net Income and Deductions (page 36)

SUGGESTED TIMING

110–150 min

MATERIALS

- calculator
- federal payroll deduction tables
- Internet access (optional)
- analog clock (optional)
- money manipulatives (optional)

BLACKLINE MASTERS

Master 1 Fractions, Decimals, and Percents
SP BLM2 Fractions and Percents
BLM 2–1 Gross Pay and Net Pay Survey
BLM 2–2 Income Ranges and Taxes

Specific Expectations

EP2.01 – gather, interpret, and describe information about government payroll deductions (i.e., CPP, EI, income tax) and other payroll deductions

Cumulative Review

- Determine the following without using a calculator.
 - What is half of 18?
 - What is one third of 9?
 - What is one quarter of 24?
- How many regular hours will someone need to work to earn \$150 at \$7.50/h?
- Determine two equivalent fractions for each of the following fractions.
 - $\frac{8}{12}$
 - $\frac{9}{21}$
- $\frac{1}{2} = \underline{\hspace{1cm}}\%$
- You receive 5% commission on \$15 000. How much commission is that?

Answers to Cumulative Review

- 9
 - 3
 - 6
- 20 h
- $\frac{2}{3}, \frac{4}{6}$
 - $\frac{3}{7}, \frac{18}{42}$
- 50%
- \$750

What's the Math?

The chapter opener got students thinking about the difference between their gross wage and their actual take-home pay. This section looks in more detail at the common deductions that affect gross pay. There are always some deductions from gross pay, including taxes and employment insurance. Students will have to determine the relationship between gross pay, deductions, and net pay. They will be working with

- multiplication and division
- multiplication and division of decimals
- fractions and percents

Accommodations

- Students who have difficulty with the Warm Up questions could benefit from additional reinforcement using **Master 1 Fractions, Decimals, and Percents**.

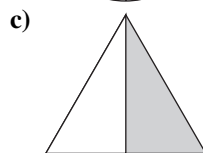
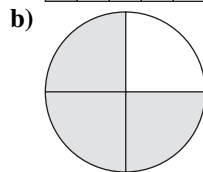
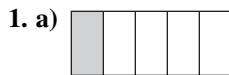
Warm Up Notes

The main purpose of the Warm Up is to provide an opportunity to review and work the basic mathematics skills of percents, fractions, and decimals. This exercise may provide an opportunity for diagnostic and ongoing assessment of basic skills. All of the questions relate to how payroll deductions and net income are derived.

When discussing answers with students, stress the mathematical processes at work. The questions deal with percent and fractions in various forms. Students can strengthen their ability to connect how numbers relate to each other.

Question 1 checks that students understand the size of various common fractions. In question 2, they convert between fractions and percents, and between decimals and fractions. In question 3, students calculate a fraction of a number. Questions 4 and 5 are closely related and check students' understanding of percent. Question 6 asks students to develop equivalent fractions.

Answers to Warm Up (page 36)



2. $\frac{1}{4}$, $\frac{3}{4}$, 50%, 75%, 0.5, 0.25

3. a) 40

b) 20

c) 60

4. a) yes

b) 40

c) 70%

5. Answers will vary. For example, less 75%.

6. $\frac{56}{80} = \frac{14}{20} = \frac{70}{100}$

Accommodations

- Students who have difficulty with Skills Practice 2: Fractions and Percents may benefit from completing **SP BLM2 Fractions and Percents**. This worksheet can be customized by changing the numbers to provide a different set of related questions for additional practice.
- Allow students to use money manipulatives and an analog clock to help them with the first part of Skills Practice 2 on page 37 of the student resource.

Activity Planning Notes

This section starts with **Skills Practice 2: Fractions and Percents**. Go over this Skills Practice with students and then have them do the questions on their own. As you discuss the answers to these questions, encourage students to report any patterns that they see.

Students should start the work in the rest of the section by reading the definitions for net pay and take-home pay on page 38. Have them recall the definition of gross pay as well. You may wish to read the definitions aloud. You may wish to make **BLM 2–1 Gross Pay and Net Pay Survey** into an overhead. You can facilitate the survey in questions 1 and 2 by recording responses on the overhead. Each student can then choose which ones they record in their student resource.

Stronger students will be able to move on to question 3. The remainder of the section requires the federal payroll deduction tables and/or Internet access. Students research the four primary payroll deductions. It will be beneficial to have students work in pairs or groups of three, so they can help each other navigate through the tables and/or web pages.

A significant amount of time will be needed for taking up and discussing the answers after the research has been done. Use **BLM 2–2 Income Ranges and Taxes** as an overhead and complete it as a class once students' research is complete. Make sure that students have a complete set of correct answers.

Emphasize that the big ideas are not the percents, but rather the most common deductions, and that workers do not take home all of their earnings.

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

Literacy Link

The world of taxes and payroll deductions has its own terminology. Use the provided glossary of terms and encourage students to write their own definitions of key terms to enhance their understanding.

Students may benefit from a discussion of taxes: what they are, where they come from, and who pays them. Discussing CPP and EI may also help contextualize these deductions for students. Have students create a master list of tax terms and post it in the class.

Speed Bump

- Some students will find it difficult to do the research.
- R_x** You may need to guide students to the correct pages. Read and discuss the activity before assigning the work. Alternatively, you could download the appropriate information and provide it to students.
- Some students will have difficulty understanding the incremental percent increases in income tax deductions.
- R_x** A worked example or two calculated by you will assist in student understanding of the concept.

Technology Link



Students will need to use the Internet to perform their research into taxable income and provincial and federal tax rates. Have them navigate to www.mcgrawhill.ca/books/workplace11 and follow the links.

Answers to Skills Practice 2 (pages 37–38)

Blanks, in order: 6 inches, 75¢, 15 min, 90 min

1. a) $\frac{3}{4}$ b) $4\frac{1}{4}$ c) $\frac{1}{4}$
d) $\frac{4}{5}$ e) $1\frac{1}{2}$ f) $\frac{5}{8}$

Blanks, in order: 70%, 70, 70

2. a) $\frac{5}{100}$ or $\frac{1}{20}$
b) $\frac{14}{100}$ or $\frac{7}{50}$
c) $\frac{20}{100}$ or $\frac{1}{5}$

3. Answers may vary, but will likely include the following:

- a) $\frac{2}{40}$ b) $\frac{21}{150}$ c) $\frac{2}{10}$

Answers to Activity Questions (pages 38–41)

1.–2. Answers will vary.

3. a) With very few exceptions, every person in Canada over the age of 18 who earns a salary must pay into the Canada Pension Plan.
b) in 2006, 4.95% of gross earnings
c) \$3500
d) Generally, retired workers who contributed into the plan are eligible, although CPP also provides disability and survivor benefits.

4. a) Employment Insurance (EI) provides temporary financial assistance for unemployed Canadians while they look for work or upgrade their skills. Canadians who are sick, pregnant, or caring for a newborn or adopted child, as well as those who must care for a family member who is seriously ill with a significant risk of death, may also be assisted by EI.
b) 1.87% in 2006
c) \$729.30 in 2006
d) generally, employees who have lost a job through no fault of their own, although there are other conditions for eligibility
5. a) A portion of your earnings is remitted to federal and provincial governments to pay for services, e.g., health care, public education, and national defence.
b) all Canadians with annual earnings over \$8639 (in 2006)
c) no
d) \$8639 (in 2006)
e) Federal Income Tax: \$36 378, 15.25%; \$36 379, \$72 756, 22%; \$72 757, \$118 285, 26%; \$118 285, 29%
Provincial Income Tax: \$34 758, 6.05%; \$34 759, \$69 517, 9.15%; \$69 517, 11.16%

Answers to Check Your Understanding (page 41)

1. a) CPP, EI, federal and provincial income taxes
b) 90%, 683 760 100
c) 10%, 100 9

Ongoing Assessment

- Check student ability to make correct calculations with their calculators.
- Check answers to the Check Your Understanding to make sure that students understand the concepts of deductions and net pay.

Challenge!



Students can calculate an annual income (gross pay and net pay, including any necessary CPP, EI, and federal and provincial income tax deductions) for the highest- and lowest-paid students from the class survey on page 38.

2.2 Approximating Net Income (page 42)

SUGGESTED TIMING

150–225 min

MATERIALS

- calculator
- federal payroll deduction tables
- Internet access
- ruler (optional)

BLACKLINE MASTERS

SP BLM3 Reading EI Tables
BLM 2–3 Net Pay for Annual
Gross Pay

Specific Expectations

EP2.02 – estimate and compare, using current secondary data, the percent of total earnings deducted through government payroll deductions for various benchmarks

Cumulative Review

1. Calculate the gross weekly income for someone who works 38 h at \$12.30/h.
2. Name the four primary payroll deductions.
3. What percent of gross pay does an employee contribute to CPP?
4. What is 85% of \$750?
5. \$440 is what percent of \$500?

Answers to Cumulative Review

1. \$467.40
2. CPP, EI, provincial income tax, federal income tax
3. in 2006, 4.95% of gross earnings
4. \$637.50
5. 88%

What's the Math?

Students calculate earning for different pay schedules. They read Employment Insurance tables to determine contributions based on weekly income. Students continue to work with net income by determining gross pay and subtracting total deductions. Then, students determine net earnings as a percent of gross earnings.

Warm Up Notes

When discussing answers with students, stress the basic mathematical processes involved as well as the use of mental mathematics, thinking strategies, and patterning. These Warm Up questions reinforce the connections that students make between percents, fractions, and decimals.

Question 1 checks that students understand the size of various common percents. In question 2, students convert among fractions, percents, and decimals. Question 3 can be solved using patterning. Discuss the pattern with students. Question 4 has students calculate a percent of a number. This can be done mentally using more than one method:

• **Method 1:** $10\% \text{ of } 30 = \frac{1}{10} \text{ of } 30 = 3$

$$70\% \text{ of } 30 = 7 \times (10\% \text{ of } 30) = 7 \times 3 = 21$$

• **Method 2:** $70\% = 50\% + 20\%$

$$50\% \text{ of } 30 = \frac{1}{2} \text{ of } 30 = 15$$

$$20\% \text{ of } 30 = \frac{1}{5} \text{ of } 30 = 6$$

$$15 + 6 = 21$$

Answers to Warm Up (page 42)

1. Look for answers that are similar to the following.
Part a) should have lightly more shading than part b).



2. $\frac{1}{5}$, $\frac{4}{25}$, 75%, 16%, 0.75, 0.5

3. a) \$14
b) \$28

4. 21

Accommodations

- Read instructions aloud to the class, if necessary.
- One-on-one assistance may be necessary to help students read through the tables and/or navigate the web sites. Stay aware of students' progress, since they may hesitate to ask for help.
- Allow students to use a ruler to help them read across the rows of the table.

Activity Planning Notes

Questions 1 and 2 review material in Chapter 1. Take up, discuss, and check for understanding before moving on.

Ensure that students can read and understand the EI table in Skills Practice 3 before attempting to do the research using the other payroll deduction tables. Students will need to flip back and forth to answer question 2 on page 44. To prevent this, if you have students work in pairs, one student could have the student resource open to the table on page 43 while the other reads each question on page 44. They could then discuss the answer, decide on it, and write it down in their own copy of the student resource.

Alternatively, you may wish to work through question 2, parts a) to c) with students to ensure that they begin part d) with the correct values. Note that students will need to use the Internet to perform the research into CPP, EI, and provincial and federal tax deductions needed to complete question 2. Have them navigate to the web site identified in the student resource.

Conclude the section by having students complete the Check Your Understanding. Note that the table in question 3 will be referred to at other times in this course and is provided as a blackline master. Make an overhead of **BLM 2–3 Net Pay for Annual Gross Pay** and fill it in as a class. Keep this as a reference for later sections in which the information will be pertinent. Encourage students to look for patterns in the table.

Literacy Link

A significant amount of reading and interpreting is needed to use the payroll deduction tables. Reading such tables is a skill in itself.

Using the EI table on page 43 as an example, discuss the various parts of the table. For example,

- Note the two main columns that are repeated in the table.
- Identify how the Insurable Earnings column is subdivided into two columns: From and To.
- Have students point out the formatting that allows readers to identify that there are three sets of columns in the table (i.e., there is a dark vertical line splitting the three sets of columns).

Discuss with students how to read across the rows so that they get the correct information. You may wish to make the EI table on **SP BLM3 Reading EI Tables** into an overhead to facilitate this discussion.

Accommodations

- Students who have difficulty with Skills Practice 3: Reading EI Tables may benefit from completing **SP BLM3 Reading EI Tables**. This worksheet provides additional practice in reading the tables and can be customized to provide a completely different set of related questions for additional practice.

Speed Bump

- Some students will have difficulty reading the government tables.
- R_x** Students can work in pairs. One-on-one support may be needed. Teacher-directed working through the activity may be necessary.
- Some students will have difficulty using the Internet and/or navigating web sites.
- R_x** Students can work in pairs. Pair someone who is familiar with the Internet with someone who is less familiar. Alternatively, project the Internet site(s) and work through the material as a class.

Answers to Activity Questions (pages 42–43)

1. a) \$461.54, \$923.08, \$1000, \$2000
b) \$721.54, \$1443.08, \$1563.33, \$3126.67
c) \$1226.92, \$2453.85, \$2658.33, \$5316.67
2. a) \$155, \$310
b) \$540, \$1080
c) \$944.30, \$1888.60

Answers to Skills Practice 3 (pages 43–44)

1. a) \$6.26 b) \$7.01 c) \$7.73
2. a) \$300
b) \$400, \$10/h
c) \$500, \$12.50/h
d)

	Simone	Pierre	Nico
Weekly Gross Earnings	\$300.00	\$400.00	\$500.00
CPP Deduction	\$14.85	\$19.80	\$24.75
EI Deduction	\$5.61	\$7.48	\$9.35
Taxable Income	\$279.54	\$372.72	\$465.90
Federal Tax Deduction	\$43.33	\$57.77	\$72.21
Provincial Tax Deduction	\$16.91	\$22.55	\$28.19
Total Deductions	\$80.70	\$107.60	\$134.50
Weekly Net Earnings	\$219.30	\$292.40	\$365.50
Net Earnings as % of Gross Earnings	73.1%	73.1%	73.1%

Answers to Check Your Understanding (page 45)

1. Net, Gross, Deductions
2. the amount earned
3. The solutions provided below are based on a 50-week working year and a 40-h work week.

4. Two answers are appropriate:
 - the greater the deductions and the less net pay as a percent of gross pay
 - the more you take home

The first bullet is more pertinent to the section and should be emphasized.

Annual Gross Pay	Gross Weekly Earnings	Total Deductions	Net Weekly Earnings	Approximate Hourly Rate (Annual Earnings ÷ 2000 h)	Net Pay as a % of Gross Pay
a) \$15 000	\$300	\$80.70	\$219.30	\$7.50	73.1
b) \$20 000	\$400	\$107.60	\$292.40	\$10.00	73.1
c) \$25 000	\$500	\$134.50	\$365.50	\$12.50	73.1
d) \$30 000	\$600	\$161.40	\$438.60	\$15.00	73.1
e) \$35 000	\$700	\$246.67	\$453.33	\$17.50	64.8
f) \$40 000	\$800	\$330.38	\$469.62	\$20.00	58.7

Ongoing Assessment

- Check students' ability to make correct calculations with their calculators.
- Check answers to the Check Your Understanding questions. Determine whether students are able to correctly fill in the table in question 3, and if they understand the patterns in the table.

Challenge!



Have students complete a TD1 tax form and determine what condition(s) would result in someone not being in tax claim category 1.

Technology Link



To access a TD1 tax form and the conditions for the various categories, go to www.mcgrawhill.ca/books/workplace11 and follow the links.

2.3 Net Income and Personal Expenses (page 46)

SUGGESTED TIMING

75 min

MATERIALS

- calculator

BLACKLINE MASTERS

BLM 2–4 Classifying Expenses

Specific Expectations

EP2.03 – describe the relationship between gross pay, net pay, and payroll deductions (i.e., net pay is gross pay less government payroll deductions and any other payroll deductions), and estimate net pay in various situations

EP2.04 – describe and compare the purchasing power and living standards associated with relevant occupations of interest

Cumulative Review

1. What date is the next payday for a bi-weekly employee paid on August 22?
2. How much would an employee earning \$14/h earn in a 37-h week?
3. State the four primary payroll deductions.
4. Jess makes \$8.75 per hour and usually works 40 h per week. How much does she make per week?
5. Calculate Jess's total earnings for a month in which she receives five pay cheques.

Answers to Cumulative Review

1. September 5
2. \$518
3. CPP, EI, provincial income tax, federal income tax
4. \$350
5. \$1750

What's the Math?

Students begin to investigate the relationship between net income and personal expenses. Different types of expenses are introduced, including essential and non-essential, and variable and fixed expenses. Students are asked to think about planning expenses based on a pay schedule.

Warm Up Notes

Questions 1 to 3 provide more opportunities to assess students' facility with patterning, percents, fractions, and decimals. Question 4 can be used to teach patterning and number sense. Multiplying by 50 is the same as dividing by 2 and then multiplying by 100, so 78×50 becomes 39×100 which equals 3900, which can be done without a calculator!

Answers to Warm Up (page 46)

1. a) 50%
b) 25%
c) 12.5%
d) 62.5%

2. $\frac{7}{20}$, $\frac{2}{25}$, 90%, 8%, 0.9, 0.35

3. a) \$22
b) \$44
c) \$66

4. a) 1200
b) 1800
c) 2000
d) 12 500
e) 30 000

Activity Planning Notes

Question 1 reviews many of the concepts studied thus far and could be used as an assessment tool.

The main emphasis in this section is the discussion that will ensue from working through the questions. Students can work independently, in pairs, or in small groups. Have them work through Jamil's scenario in question 2 and discuss the responses. Complete question 3 as a class. Students can then record the answers to the brainstorm in their student resource.

Have students attempt question 4. Then use **BLM 2–4 Classifying Expenses** as an overhead and record student ideas. Encourage discussion about which expenses are essential and non-essential.

Similarly, have students complete question 5 on their own, then work as a class to record their responses on the overhead made from **BLM 2–4 Classifying Expenses**. Use an erasable marker and again encourage discussion.

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

Literacy Link

Some of the terms may be new to students and they should write their own definitions on the glossary pages for this section, which start on page 1 of the student resource. Students can write their own lists classifying examples of the different types of expenses. This will reinforce the meaning of types of expenses and encourage classification skills.

Speed Bump

- Some students may have difficulty brainstorming expenses or categorizing them.

R_x A whole class discussion about why an item is or is not a fixed expense may help.

Accommodations

- Have students create a graphic organizer, such as a mind map template, to facilitate the brainstorming session.
- Students may benefit from working and discussing in pairs or small groups.

Answers to Activity Questions (pages 46–49)

1. a) \$374
b) \$18 700
c) In 2006, for example, a good estimate is 73%.
d) \$546
e) 2, \$1092, 3, \$1638
f) Some months, employees paid bi-weekly are paid three times.
2. a) Answers will vary, but will likely include:
Don't change: car payment, insurance payments
Change: gas, cleaning and maintenance costs
b) Students' answers will vary. However, they will likely indicate that he may want to schedule his regular payments to come out of the bank at the same time every month. This is the best situation if Jamil gets paid semi-monthly. If he gets paid bi-weekly, he will have to make sure he has money in the bank at the times the payments are due, since his pay dates will vary.
3. Students' answers will vary. Examples include rent, food, car expenses, clothing, entertainment, school related, public transportation, bank loans, automobile insurance, etc.

4. Essential: rent, food, clothing, automobile insurance

Non-essential: car expenses, entertainment, school related, public transportation, bank loans. Students may give rationales for inclusion of some expenses, such as public transportation, into essential versus non-essential expense categories.

5. Fixed expenses include rent, most car expenses, bank loans, insurance.

Variable expenses include some car expenses, public transportation, food, entertainment, etc.

Answers to Check Your Understanding (page 49)

1. When savings is considered first, it ensures that you save. For many people, saving can become an afterthought.
2. net income, because that is the money that you have available, not the total earned before deductions



Challenge!

Students can record their own expenses for a period of one week, and then classify each expense as essential or non-essential, and fixed or variable. At the end of the week, have them present their lists to a group of peers, who may challenge any classification. You may wish to have them use a table such as the following.

Item	Essential Expense	Non-Essential Expense	Fixed Expense	Variable Expense
School lunch	√			√

When discussing the example, have students consider that a school lunch may not be an essential expense if students can pack their own lunch using items from home. How would students classify it? Can they support their opinion?

Ongoing Assessment

- Check student ability to participate in discussions and to make correct calculations with their calculators.
- Check answers to the Check Your Understanding questions to make sure that students understand the concepts being addressed.

2.4 Purchasing Power and Living Standards (page 50)

SUGGESTED TIMING

75 min

MATERIALS

- calculator
- coloured pencils (optional)

BLACKLINE MASTERS

BLM 2–5 Calendar of Expenses

Specific Expectations

EP2.04 – describe and compare the purchasing power and living standards associated with relevant occupations of interest

Cumulative Review

1. List two typical essential expenses and two typical non-essential expenses.
2. How many pays per year does someone who gets paid semi-monthly receive?
3. Determine the semi-monthly pay for someone with an annual salary of \$82 000.
4. Pauline has a weekly gross pay of \$460 and a weekly take-home pay of approximately \$378. What percent of her gross pay is her net pay?
5. Brad makes \$10 per hour plus a 2% commission on sales. One week, he worked 25 h and sold \$525 in merchandise. How much did he make?

Answers to Cumulative Review

1. essential expenses: rent, food
non-essential expenses: entertainment, cell phone
2. 24
3. \$3416.67
4. 82.2%
5. $\$250 + \$10.50 = \$260.50$

What's the Math?

Students investigate the concept of purchasing power. The calculations of gross and net earnings lead into questions of budgeting and spending. Purchasing power is presented as the ability to buy goods and services as desired. Students are asked to classify a series of items as improving or worsening purchasing power. They also explore two different scenarios and determine the purchasing power of the individuals involved. Students need to categorize expenses, determine monthly costs, and use addition, multiplication, division, and subtraction with fractions and decimals.

Warm Up Notes

Stress the use of mental mathematics, thinking strategies, and patterning as opposed to having students simply getting the answers using a calculator.

This Warm Up is designed to continue to reinforce basic numeracy skills. Questions 1 and 2 have students work with patterning. Questions 3 and 4 are recall-type questions from the previous section.

Accommodations

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

Answers to Warm Up (page 50)

1. a) 24
- b) 240
- c) 2400
- d) 24
- e) 24 000

2. \$84, \$168, \$252, \$336

3. non-essential expenses

4. Answers will vary, and may include entertainment, some types of clothing, or any type of optional expense.

Activity Planning Notes

This section combines the concepts learned in Chapter 2 and revisits some of the concepts from Chapter 1. After the calculations are made, much of this section revolves around discussion of the purchasing power and the decision-making possibilities for the characters in the section. Ensure that students read all of the given information involving each set of questions. Stop and take up the work as needed before moving on.

Have students read Dan’s scenario and answer question 1. Make sure that they can define “purchasing power” in their own words. Question 2 provides a useful opportunity for students to exercise their understanding of purchasing power by classifying specific activities according to whether they improve or worsen it.

Have students read Ivanka’s scenario and calculate her net income (question 3). Then have them consider her expenses. Discuss how the total of weekly expenses may change from month to month, depending on the number of weeks in that month. For part c), you may wish to have students calculate the monthly expenses for a month with 4 weeks and a month with 5 weeks. Part e) can help students consider how Ivanka can prepare for those 5 week months.

Have students read Joonas’s scenario and calculate her annual wages, including tips (question 4). Have them complete parts b) to e) individually. Then use **BLM 2–5 Calendar of Expenses** and go through Joonas’s expenses as a class, writing them on the calendar. Separate out the monthly versus the weekly costs and determine how much Joonas is spending per week and per month. This can also be an opportunity for students to brainstorm other possible expenses and how to prepare and budget for them. Many students have different priorities, and a class discussion may help students recognize other perspectives.

Once students have completed and discussed question 5, have them complete the Check Your Understanding. You may wish to have them do this as a class brainstorming and then record individual answers in their own student resource.

Accommodations

- Read the instructions and the given information aloud to the class.
- Break down the section into small segments. Assign only one question at a time. Stop and take up material in small sections to ensure students grasp the concepts before moving on.

Using the Margin

- Have students use the margin beside the scenario at the top of page 54 to list Joonas’s expenses by the week and month.

Speed Bump

- Students may add monthly expenses without considering that some of the expenses are quoted as weekly costs.
- R_x** Have students underline or highlight the frequency of the costs before generating totals.
- In question 5b), students may not be able to distinguish Joonas’s income and expenses on the calendar.
- R_x** Encourage students to identify Joonas’s expenses using brackets or by circling or underlining them. Some students may wish to use coloured pencils to show the different amounts.

Accommodations

- Highlighting or underlining key bits of information and/or drawing arrows from one section to the next will help students link the connecting parts of the questions.

Literacy Link

To properly answer the questions, students need to read and perhaps reread to understand each scenario fully. They might benefit from writing the scenarios out with one column for weekly expenses and another column for monthly expenses. This will allow students to organize which expenses need to be divided by four to get a weekly cost, or multiplied by four to get a monthly cost.

You may wish to point out to students that some parts of the questions are dependent on previous answers. Have students draw an arrow from one part of a question to another if the answer needs to be carried forward.

Answers to Activity Questions (pages 50–55)

- a)** \$210 **b)** \$200
c) 60 weeks
d) His purchasing power is pretty good. He has very little in the way of expenses and he has discretionary money each week while, at the same time, saving for a major purchase.
- a)** + **b)** – **c)** –
d) + **e)** – **f)** +
g) – **h)** + **i)** +
j) –
- a)** \$2200
b) \$3200
c) $734 + 20 + (85 \times 4) + 135 + 200 + 40 + (10 \times 4) + (50 \times 4) + 238 + 100 = \2047 . The difference is \$153.
d) Medium. After paying for her current expenses she has about \$150 per month left over. If she doesn't spend much on non-essentials, she will be ok, but if she wants to save for a major purchase, she will not be able to do so quickly.
- a)** $8.50 \times 35 \times 52 = \$15\,470$,
 $300 \times 52 = \$15\,600$,
total = \$31 070
b) approximately 73%
c) $8.50 \times 35 \times 73\% + 300 = \517.18
 $\$517.18 \times 2 \text{ weeks} = 1034.36$
d) October 14 and 28
e) \$1200 (four full weeks)

- a)** Tips are income and, as such, they are taxable even though there were no deductions at the time she received the money.
b) Savings: \$75 every Friday (or any day students choose, as long as it is a regular deposit)
Rent: \$450, 1st of the month
Groceries: \$60 any day of the week, but regularly (each Friday, etc.)
Transit Pass: \$100 the week of the 24th
Phone: \$40, 12th of the month
Laundry: \$10, any day of the week, but regularly (each Monday, etc.)
Income Tax: \$75 every Friday (or any day students choose, as long as it is a regular deposit)
Pay cheque: \$595 Sept 30, October 14, 28
Tips: \$300 every Thursday or Friday, as long as the day is regular. It makes the most sense to have this deposit at the end of the week. It should also come at the same time or just before the payments for savings and income tax.
c) Net income: 2068.70
Expenses: \$1470
The difference is $\$2068.70 - \$1470 = \$598.70$.

Answers to Check Your Understanding (page 55)

1. Answers will vary but should include ideas about the number of fixed expenses someone has, their income level, whether they save, how the calendar falls with respect to payday, and possible dates that expenses are due.

Ongoing Assessment

- Check student ability to make correct calculations and offer appropriate explanations. Note participation in discussions and the nature of the comments made.



Challenge!

Have students discuss the challenges that Ivanka might encounter if she receives two weeks' notice that her job will end.

Chapter 2 Review (page 56)

SUGGESTED TIMING

75 min

MATERIALS

- calculator

BLACKLINE MASTERS

BLM 2–6 Chapter 2 Word Puzzle
BLM 2–7 Chapter 2 Practice Test
BLM 2–8 Chapter 2 Final Test

Using the Chapter Review

Before any of the review questions are attempted, make sure students read through the two pages of the review. Students should be able to work through the review at their own pace. One strategy is for students to complete the questions in the following order:

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.
3. Ask a classmate for help.
4. Ask the teacher for help.

Some students may need to do the review in segments. For example, have students do questions 1 to 3, and then take up those questions. Then have them do questions 4 and 5 and take up those questions. Then have them proceed to questions 6 and 7. This process will avoid students rushing through and completing many questions incorrectly. Reteach or review concepts and/or procedures as necessary.

Review Guide

Question	Section(s)	Refer to
1	2.1	Gross Pay, Deductions, and Net Pay (page 38)
2	2.1	Gross Pay, Deductions, and Net Pay (page 39)
3	2.1 2.2	Gross Pay, Deductions, and Net Pay (page 39) Skills Practice 3 (page 44)
4	2.2	Finding Net Income (pages 42 and 43)
5	2.2	Finding Net Income (pages 42 to 44)
6	2.3	Net Income and Personal Expenses (pages 46 to 49)
7	2.4	Income and Expenses (pages 50 to 55)

Accommodations

- Students may benefit from making a chapter summary page to summarize the key ideas/skills from the chapter. There is space for students to write their summary inside the back cover of the student resource.
- 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 them with additional reinforcement of the questions in this section before moving on to a test or the Chapter Task. You can easily produce extra reinforcement questions by customizing **BLM 2–7 Chapter 2 Practice Test**.

Chapter 2 Review Answers (pages 56–57)

1. net pay = gross pay – payroll deductions (or some variation on this)
2. a) Canada Pension Plan
b) Employment Insurance
c) federal income tax
d) provincial income tax
3. 79.5%
4. a) \$269.23, \$538.46, \$583.33, \$1166.67
b) \$23 076.92, \$46 153.85, \$50 000, \$100 000
c) \$515.38, \$1030.77, \$1116.67, \$2233.33
5. Approximate percent and approximate net earnings may vary over time. Assume that deductions reduce net pay to 75% of gross pay.
 - a) Earnings per week will vary over time, depending on the type of minimum wage the person is earning. Student minimum wage is \$7.50/h in 2007, so weekly earnings are \$150. Deductions are \$37.50 and approximate net earning is \$112.50.
 - b) \$332.50, \$83.13; \$249.38
 - c) \$979.00, \$244.75; \$734.25
6. Answers will vary and may include pension, union dues, charitable donations, Canada Savings Bonds, RRSP contributions, benefits, or professional dues.
7. a) \$262.50
 - b) Answer may vary over time. 75% net pay as percent of gross pay may be a reasonable number to work with. Weekly take-home pay is approximately \$197.
 - c) Weekly expenses are approximately \$177, so she saves approximately \$20 per week. $\$20 \times 52 \text{ weeks} = \1020 . Therefore she won't be able to buy a car next year.
 - d) Her purchasing power is pretty good. She has discretionary money, she drives, she is saving for a major purchase, and she's contributing at home.

Summative Assessment

- Have students complete **BLM 2–8 Chapter 2 Final Test** to assess individual skills.

Task: Monthly Spending Plan (page 58)

SUGGESTED TIMING

45–75 min

MATERIALS

- calculator

BLACKLINE MASTERS

BLM 2–9 Chapter 2 Task
BLM 2–10 Chapter 2 Task Rubric
BLM 2–11 BLM Answers

Specific Expectations

- EP1.03** – describe the effects of different remuneration methods and schedules on decisions related to personal spending habits
- EP1.04** – solve problems, using technology, and make decisions involving different remuneration methods and schedules
- EP2.03** – describe the relationship between gross pay, net pay, and payroll deductions (i.e., net pay is gross pay less government payroll deductions and any other payroll deductions), and estimate net pay in various situations

Activity Planning Notes

The Task page in the student resource provides opening content for a longer Task that is scaffolded on **BLM 2–9 Chapter 2 Task**.

Read the situation aloud. Discuss and have students answer questions 1 and 2. This page should be used to elicit discussion and to ensure student understanding about the Task that they will receive. This page should not be assessed.

Hand out the Task. Ensure that students understand the basis of the scenario. Encourage students to provide reasoning and to show their calculations for their answers.

Accommodations

- Some students may need to have the Task broken down further.
- Allow students to refer back to their work in earlier sections for help.

Task Answers (page 58)

1. Answers may include: rent, car insurance, gym membership, cable TV, groceries, car maintenance, gasoline, clothing, and furniture.

2. Responses will vary but should deal with the big ideas of this chapter, such as purchasing power, available money after fixed expenses are paid, planning spending by considering dates paid, and due date of bills.

Summative Assessment

Use **BLM 2–10 Chapter 2 Task Rubric** to assist you in assessing student work on this Task.