

Chapter 1 Planning Chart

Section Suggested Timing	Teacher's Resource Blackline Masters	Assessment Tools	Materials and Technology Tools
1 Jobs and Earnings (TR page 2) (15 min)	BLM 1–1 How Are Employees Paid?	Diagnostic Assessment (TR page 3)	
1.1 Investigating Jobs and Their Related Pay (TR page 4) (75–150 min including Skills Practice 1)	Master 2 Hundreds Grids Master 3 Clock and Time Templates SP BLM1 Calculating Percents	Ongoing Assessment (TR page 7)	<ul style="list-style-type: none"> • calculator • newspaper classified ads or similar resource • Internet access (optional)
1.2 Ways of Being Paid for Work (TR page 8) (75–150 min)	Master 6 Calendar Templates BLM 1–2 Commission Salary Template	Ongoing Assessment (TR page 11)	<ul style="list-style-type: none"> • calculator • newspaper classified ads or similar resource • Internet access (optional)
1.3 Calculating Gross Income (TR page 12) (75–150 min)	Master 6 Calendar Templates BLM 1–3 Timing of Earnings	Ongoing Assessment (TR page 14)	<ul style="list-style-type: none"> • calculator • calendar for the current year
1.4 Understanding Different Pay Schedules (TR page 15) (75–150 min)	BLM 1–4 Three-Month Calendar	Ongoing Assessment (TR page 18)	<ul style="list-style-type: none"> • calculator
Chapter 1 Review (TR page 19) (75 min)	BLM 1–5 Chapter 1 Word Puzzle BLM 1–6 Chapter 1 Word Search BLM 1–7 Chapter 1 Practice Test	BLM 1–8 Chapter 1 Final Test	<ul style="list-style-type: none"> • calculator
Task: Which Job Do I Accept? (TR page 21) (30–75 min)	BLM 1–9 Chapter 1 Task BLM 1–11 BLM Answers	BLM 1–10 Chapter 1 Task Rubric	<ul style="list-style-type: none"> • calculator

CHAPTER 1

Jobs and Earnings (page 7)

SUGGESTED TIMING

15 min

MATERIALS

- calculator
- newspaper classified ads (or similar resource)

BLACKLINE MASTERS

BLM 1–1 How Are Employees Paid?

Overall Expectations

EPV.01 – interpret information about different types of remuneration, and solve problems and make decisions involving different remuneration methods

What’s the Math?

The chapter opener is designed to start students thinking about the different ways that employees are paid. You might start by brainstorming the different ways, or by reviewing a page of ads and collecting information on how people are paid, including

- annual wage
- annual wage plus bonus(es)
- hourly
- hourly plus tips
- weekly
- by commission
- base wage plus commission
- by the job
- piecework

Each method of getting paid requires its own math, including calculating

- monthly payments for annual wage earners
- shift payments for hourly wage earners
- weekly earnings for hourly wage earners
- monthly and annual earnings for people paid by the week
- amount of commission

These calculations involve adding, subtracting, multiplying, and dividing decimals, and 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. Many students will have read job ads and had difficulty with them. Others will have work experience and may have held jobs that offered different methods of pay.

Make **BLM 1–1 How Are Employees Paid?** into an overhead to record student ideas. You may wish to have a student transfer this to a large wall chart, which you can add to as students find additional methods of payment during their research in the chapter.

Literacy Link

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

Consider having students scan a page of job ads looking for methods of remuneration. Scanning is an important skill that is part of many job searches and possibly positions. Students can circle or highlight the remuneration information and record the different ways it is recorded.

Diagnostic Assessment

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

- Are students able to see how mathematics may be involved in assessing remuneration (in a very general sense at this point)?
- Are their comments reasonable?

Use your assessment of student awareness of these concepts to help you gauge the speed of the lessons that follow and the amount of assistance students will need. If students seem to have little job experience, you may wish to walk them through many of the activities as a class. If students seem to have a good understanding and awareness of work and money concepts, you may find that they can work at their own pace to some degree.

Speed Bump

- Some students have no job experience and may not wish to enter the discussion.
- R_x** Students might benefit from asking friends and/or family members how they are paid and reporting this back to class.

Answers (page 7)

1. Answers may vary. Some students may be quite comfortable with job ads, while other may have never seen them. Possible reasons for frustration include
 - abbreviations are often used
 - necessary information may be missing
 - vocabulary may be too high

2. Answers may vary. Possible answers include
 - multiplication
 - calculating number of hours
 - calculating percent
 - estimating tips
 - comparing unit rates

3. Answers may vary. For example, different jobs have different requirements or conditions, so not all jobs can be paid the same way.

1.1 Investigating Jobs and Their Related Pay (page 8)

SUGGESTED TIMING

75–150 min (including Skills Practice 1)

MATERIALS

- calculator
- newspaper classified ads or similar resource
- Internet access (optional)

BLACKLINE MASTERS

Master 2 Hundreds Grids
Master 3 Clock and Time Templates
SP BLM1 Calculating Percents

Specific Expectations

EP1.01 – gather, interpret, and compare information about the components of total earnings in different occupations

EP1.04 – solve problems, using technology, and make decisions involving different remuneration methods and schedules

Cumulative Review

The Warm Up at the beginning of each lesson reviews specific skills that students will need during that lesson, or that students may need to remember from the current chapter. On average, look at 5 to 10 minutes to do and 10 to 15 minutes to take up and discuss.

This cumulative review section, which appears only in the *Teacher's Resource*, provides an opportunity for students to continue to review skills from earlier in the course. The Cumulative Review consists of a maximum of five questions. In Chapter 1 only, it will provide an ongoing review of skills handled in the current chapter.

1. How many hours are there between 11 a.m. and 3:30 p.m.?
2. If you are paid \$8 per hour, how much would you earn by working five hours?
3. Name one method of being paid.
4. What might be included in a pay package?

Answers to Cumulative Review

1. 4.5 h
2. \$40

3. Answers may vary. Accept any reasonable answer, such as hourly, by commission, weekly, etc.
4. money, benefits, vacation pay, and so on.

What's the Math?

Students work through Skills Practice 1, which reviews how to calculate percents. This is a skill students will continue to use during this course.

Students then use calculator skills to help them calculate gross pay for various jobs paid by the hour. Throughout these questions, students practise reading sample job ads and learn basic accounting vocabulary, such as gross pay, deductions, and pay package.

Warm Up Notes

The main purposes of the Warm Up are to provide structure to the classroom environment and to provide students with an opportunity to work with basic mathematics skills. This exercise will also provide you with a sense of how comfortable students are working with time and percents, and may provide an opportunity for diagnostic and ongoing assessment of basic skills.

Questions 1 and 6 provide opportunities to teach patterning. Students can strengthen their ability to connect how numbers relate to each other.

Questions 2 to 5 are all workplace related. For workers who are responsible for recording hours worked (their own or others'), questions 2 and 5 are key. For question 2, facing an analogue clock will help some students.

Accommodations

- You may wish to provide **Master 3 Clock and Time Templates** for students who have difficulty with question 2.
- Students who have difficulty with the Warm Up questions could benefit from additional reinforcement.

Technology Link



To find information on minimum wage in Ontario go to www.mcgrawhill.ca/books/workplace11 and follow the links.

Answers to Warm Up (page 8)

- a) 300
 - b) 350
 - c) 400
 - d) 450
- a) 8 h
 - b) 8.5 h
 - c) 9.5 h
 - d) 10.5 h
 - e) 8.5 h
- a) 47
 - b) \$376
- a) This answer may change depending on the year. In early 2007, it was \$8.00/h.
 - b) Yes. In early 2007, the minimum wage for students, homeworkers, waitstaff who serve alcohol, and hunting/fishing guides was different from the general minimum wage.
- 25 h
- a) 1
 - b) 5
 - c) 15
 - d) 150

Activity Planning Notes

This section starts with **Skills Practice 1: Calculating Percents**. Go over this skills practice with students. Have them use **Master 2 Hundreds Grids** to review and show their understanding of percent before attempting questions 1 and 2. As you discuss the answers to these questions, encourage students to report any patterns they see.

As a class, read the Tech Tip on page 10. Have students calculate the percent using a calculator. Give students time to complete question 3 on page 10, and then take it up. You may wish to provide additional questions to help students improve their speed and accuracy.

At the beginning of the section, refer students to the job ads. You may need to read them aloud. Discuss the contents of each ad, and any vocabulary that concerns students. Allow students to work on questions 1 to 4 independently.

Using the Margin

- Have students identify the method in the Tech Tip they need to use for their particular type of calculator. They can then go back to this page if they forget how to calculate percent.

Speed Bump

- Most job ads use abbreviations that students may not be familiar with or may not be able to decode; e.g., M–F in the ad for Job 1 on page 10 can sometimes be misinterpreted as male–female.
- R_x** Be sure to clarify meanings with students. Reading and discussing the ads before assigning the questions will help. Also see the Literacy Link below.

Technology Link



The Internet provides access to local ads in some areas. Find examples by going to www.mcgrawhill.ca/books/workplace11 and following the links.

Accommodations

- Some students may benefit from working in pairs or a group of three.
- When working on **Skills Practice 1: Calculating Percents**, some students will find it beneficial to use **Master 2 Hundreds Grids** and shade in the relevant percents for questions 1 and/or 3.
- Students who need additional practice in calculating percents would benefit from completing **SP BLM1 Calculating Percents**.

Throughout the student resource, students are asked to write definitions of key terms in their own words on the blank glossary pages at the beginning of the related section. Explain this idea to students, starting with the term “gross pay” on page 11. Have students read and underline the definition with question 2, flip to the glossary that starts on page 251, and find and read the definition and sample sentence there. Discuss as a class what the term means, then have students fill in a definition and example on page 11. You may wish to have them put a check mark beside “gross pay” in the box on page 1 to show that they have now studied this word. Follow a similar method when introducing other key vocabulary.

As a class, read the ads on page 12, then allow students to work on questions 5 and 6. You may wish to have students role-play some of the student questions in question 5. As a class, assess the questions suggested and how they might be viewed by the prospective employer. Question 6 has students assess the three cooking jobs to see which one offers the best pay package. Discuss with students which job they would prefer and why.

The search for job ads is more effective if local newspapers or local web sites are used. You may find some of the web sites in the Technology Link in the margin helpful. Limit the search according to the time you have available.

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

Literacy Link

Job ads have their own vocabulary. As students work with the ads in this chapter, and with the ones they research, have them keep track of the terms and short forms used. Post these, and their meanings, on a word wall. The following chart provides a start using the job ads in this section.

Short Form	Meaning
M–F	Monday to Friday
OT	overtime (more than the regular hours)
hr	hour
hrs/wk	hours per week
prep	preparation (refers to preparing food)
%	percent
HR	human resources

Word	Meaning
to start	This is the starting wage. Experienced workers may receive more.
some lifting	Suggests that the work may be heavy.
full-time	Usually suggests a certain number of hours per week and five days per week.
Papers an asset.	Prefer to have a cook who is licensed.
résumé	List of previous jobs, where, for whom, and when.

Use the provided glossary of terms and encourage students to create their own definitions of key terms to enhance their understanding. Examples and non-examples quickly reveal how well students understand terms.

Answers to Skills Practice 1 (pages 9–10)

Check that the student shades in ten boxes in the hundreds grid. If they don't shade in boxes in a row or cluster, discuss why this would be wise.

1. a) 5 b) 7 c) 20

Students should shade six boxes in each of the two hundreds grids.
 6% of $200 = 12$

2. a) 18 b) 24 c) 30

a bit less than 30
 The pattern is six for each hundred.
 6% of $800 = 48$

3. a) 30 b) 42.75 c) 58.8
 d) 75 e) 301 f) 495

Answers to Activity Questions (pages 11–13)

- a) 7.5
b) 37.5
- \$365.63 (round up from 365.625)
- a) \$300
b) \$400
- Answers may vary. Expect students to provide clear reasons for choosing one job over the other, such as
 - I prefer Job 1 because lifting might be a problem for me and I like the 8 to 4 hours.
 - I prefer Job 2 because it pays more per hour and I could earn more if I worked 40 hours.
- Answers may vary. Encourage reasonable questions such as the following:

Job 1

- What shifts might I work?
- How many hours per week are expected?
- When can I start?

Job 2

- What shifts might I work?
- How many hours per week are expected?
- What range of tips is usual?

Job 3

- What hours are expected?
- Will you consider my experience if I do not have papers?
- What shifts does the cook work?

6. a) Job 1 = \$450; Job 2 = \$435; Job 3 = \$425

b) Answers may vary. Encourage students to consider the options and provide reasons for their answers. For example,

- I prefer Job 3 because my drug and dental costs add up to more than \$10 to \$25 a week.
- I prefer Job 1, which has the highest salary. I don't have high drug and dental costs, certainly not in the range of \$100 a month, which is the difference in salary between the two jobs.
- I prefer Job 2. I am personable and often get good tips. I think I could increase that weekly share of tips and would earn more.

7. As a class, discuss student findings and develop a class chart listing the similarities and differences. These will change depending on the ads students access.

Answers to Check Your Understanding (page 13)

- Answers will vary and could include ideas such as the following:
 - benefits
 - overtime
 - advancement
 - working conditions

Challenge!



Students can research the advertised pay rates for similar jobs in different cities.

Ongoing Assessment

- Check student ability to make correct calculations with a calculator.
- Check answers to the Check Your Understanding to make sure that students understand the factors that might influence a job choice.

1.2 Ways of Being Paid for Work

(page 14)

SUGGESTED TIMING

75–150 min

MATERIALS

- calculator
- newspaper classified ads or similar resource
- Internet access (optional)

BLACKLINE MASTERS

Master 6 Calendar Templates
BLM 1–2 Commission Salary
Template

Specific Expectations

EP1.01 – gather, interpret, and compare information about the components of total earnings in different occupations

EP1.02 – gather, interpret, and describe information about different remuneration methods and remuneration schedules

EP1.04 – solve problems, using technology, and make decisions involving different remuneration methods and schedules

Cumulative Review

1. Calculate the gross pay for someone who works 35 hours at \$9.30/h.
2. Name two items, other than \$/h, that make up a pay package.
3. How much time is between 8:30 a.m. and 6 p.m.?
4. Name two methods of being paid.
5. Calculate 11% of \$420.

Answers to Cumulative Review

1. \$325.50
2. Answers may vary. Accept any reasonable answers, such as health and dental benefits.
3. 9.5 h
4. Answers may vary. Accept any reasonable answers, such as by the hour, by the week, by commission, by piecework, etc.
5. \$46.20

What's the Math?

Students explore ways of being paid, including salary, wage, piecework, and commission. They identify occupations in which each type of pay is typical.

Students read job ads and calculate the range of gross pay per week for jobs with and without commission. They calculate possible commission when considering accepting an advertised job.

Students learn about pay schedules and sales periods. They calculate total earnings for people on commission, including those on straight commission and those with a base salary plus commission. Students calculate daily job rates for people doing piecework. They then consider advantages of being paid by commission and by piecework.

Warm Up Notes

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

Questions 1 and 2 provide opportunities to assess students' calendar knowledge.

Questions 3 and 6 should be done without a calculator. Question 3 provides additional practice in calculating gross pay. Question 6 provides additional practice in calculating percent. Encourage students to notice the pattern in their answers to this question. How can they use this pattern to help them mentally calculate such percents?

Students who came through Grade 10 Applied should be familiar with the type of graphing done in questions 4 and 5. You may need to explain how to extend the pattern for students who came through Math Essentials.

Accommodations

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

Answers to Warm Up (page 14)

1. a) 14
b) 30

2. April 9

3. a) \$90
b) \$180
c) \$270

4. Students should plot points at (10, 90), (20, 180), and (30, 270), and then connect the points with a straight line.

5. \$450

6. a) \$5
b) \$50
c) \$100
d) \$200

Activity Planning Notes

Depending on students' experience, Questions 1 to 5 may be done quite quickly. Take up, discuss, and check for understanding before moving on.

Ensure that students read the set-up for questions 6 to 9 carefully before attempting to answer the questions. You may wish to have them highlight the relevant information in the two job ads and the point form notes about each job.

Before answering question 8, students might consider how likely it is for a new salesperson to achieve the higher amounts of sales outlined in the chart for question 7. Students need to break the monthly sales figures down into weekly amounts. They will find that they would need to sell \$40 000 to \$60 000 worth of merchandise per month in order to make a salary equivalent to that offered by Big Box Electronics. What happens if they don't sell anything?

To answer question 9, you may wish to have students brainstorm questions to ask the store manager of Electronics Depot. What does Mohsen need to know to make a wise decision about whether to accept this job?

Speed Bump

- Some students may not translate the calculator display to the related monetary amounts. For example, in question 10a), the calculator display will show 1902.8 as the commission earned during pay period B.

R_x Ensure that students understand that the question deals with money. Therefore, the answer requires a zero after the eight, and a dollar sign at the beginning. Some students will read the calculator display as 1902 dollars and 8 cents, not 80.

Accommodations

- Read instructions aloud to the class, if necessary.
- Break down a section into small chunks. Assign only a question or two at a time. Stop and take up material in small chunks as well, to ensure students grasp concepts before moving on.

Students should read the bulleted information at the bottom of page 16 before moving on to question 10. Have them define each term in their own words. You may wish to work together to solve the first row in 10a) as an example, and then let the students work independently. You may wish to make **BLM 1–2 Commission Salary Template** into an overhead to help you in discussing and taking up these questions.

Note: The first printing of *Mathematics 11 Workplace and Everyday Life* had an error on page 17. There should be no text in any of the boxes in the Total Earnings column. This material was removed at second printing and is not on **BLM 1–2 Commission Salary Template**.

Make **Master 6 Calendar Templates** into an overhead and use the three-month calendar at the bottom to discuss question 11. Note how Ali’s pay cheques are spread out and how this might affect his ability to pay rent.

Discuss the type of job Bryan has, in which commission sales people earn a base salary plus commission. What are the advantages of such a payment method? What might the disadvantages be? Make an overhead of **BLM 1–2 Commission Salary Template** to do question 12a) as a class. Let students proceed on their own through the balance of the question.

Have students highlight the piecework rate reported at the top of page 19 and use it to answer question 13. Stop to discuss and take up the work as needed.

Conclude the section by having students answer the Check Your Understanding question.

Literacy Link

Have students add any new terms from the ads on page 15 to their ad vocabulary list. They may wish to distinguish between the two types of commission: straight commission and commission plus base salary.

You may wish to have students interview people who are paid by piecework and have them list the different ways that piecework payments are made.

Reading and translating calculator displays is an important form of literacy. Work with students who are having difficulty translating their calculator displays into dollars and cents.

Answers to Activity Questions (pages 15–19)

1. d) \$35 000 per year
2. a) \$14/hour
3. c) \$12 per crate
4. b) 5% of sales
5. Answers may vary. Encourage students to use their own experience and that of their friends and family to answer this question. Sample answers include
 - a) teaching, many full-time government jobs, social work
 - b) server, cook, mechanic, maintenance
 - c) farm work, some factory work
 - d) many sales positions, such as selling clothing, real estate, insurance, and cars
6. a) \$420
b) \$540
7. \$0, \$800, \$1600, \$2400, \$3200, \$3600
8. Answers may vary. Allow various answers backed up by some form of reasoning. Sample answer: Mohsen might want to consider how good a salesperson he is because this will affect his salary at Electronics Depot. If he is unsure of his sales ability, he might wish to accept an hourly position at Big Box Electronics. He could then test to see how much he sells and possibly later apply at Electronics Depot once he is comfortable with closing a sale.
9. Answers may vary. Encourage participation. Sample questions include:
 - What is the range of monthly sales by your employees?
 - How long does it usually take a new salesperson to start selling between \$40 000 and \$60 000 per month?
 - Can I choose my own hours? (There tend to be more customers at certain times of day.)
 - What training will I receive in closing a sale?

10. a) Dec 1–15: \$2478; Dec 16–31: \$1902.80; December Total: \$4380.80; Jan 1–15: \$721.60; Jan 16–31: \$552.80; January Total: \$1274.40
b) While answers may vary, gift-giving in December may have increased sales that month.
11. a) December 16 (Note that some students may say December 23. Discuss how this is possible, depending on how long it takes the company to calculate the sales and cut a cheque.), January 6, January 20, February 3.
b) Answers will vary. Encourage students to consider how pay schedules affect employees' ability to rent an apartment and pay regular bills such as car loans, especially if the pay cheques come in at varying times of the month. This will be handled in more detail later in the student resource.
12. a) 5, \$50, \$400
b) \$2000, 5, \$100, \$350, \$450
c) \$150, \$350, \$500
d) \$200, \$350 \$550
13. a) 10.5 h b) \$84
c) \$58 d) 8 (= 84 ÷ 10.5)
e) 5.52 (= 58 ÷ 10.5)

Answers to Check Your Understanding (page 19)

1. Answers will vary. Sample answers are italicized.

	Advantage to Employee	Advantage to Employer
a) By piecework	<i>Gets paid more money if works hard and completes a lot</i>	<i>Pay employees only for completed work</i>
b) By commission	<i>Earns more money if is a good salesperson and completes a lot of sales</i>	<i>Pays employees different amounts related to the amount they sell, and therefore the amount of money they make for the employer</i>

Challenge!



Have students determine how much merchandise Ali would have to sell to make an equivalent salary to what Mohsen would get at Big Box Electronics if he works

- a) 35 h/week
- b) 45 h/week

Ongoing Assessment

- Check student ability to make correct calculations.
- Check student answers to the Check Your Understanding to make sure that they understand the concepts being addressed and can explain why someone might and might not want to be paid by piecework or commission.

1.3 Calculating Gross Income (page 20)

SUGGESTED TIMING

75–150 min

MATERIALS

- calculator
- calendar for the current year

BLACKLINE MASTERS

Master 6 Calendar Templates
BLM 1–3 Timing of Earnings

Specific Expectations

EP1.01 – gather, interpret, and compare information about the components of total earnings in different occupations

EP1.02 – gather, interpret, and describe information about different remuneration methods and remuneration schedules

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

Cumulative Review

1. Calculate the commission for someone who earns 6% on \$3000 in sales.
2. An employee is paid every two weeks. She is paid on May 15. When will she receive her next pay?
3. How much would an employee earning \$11/h earn in a 37-hour week?
4. A waiter works a 10 a.m. to 9:30 p.m. shift. How long does he work?
5. The waiter makes \$7.25/h plus tips. How much will he get for the shift in question 4, before tips?

Answers to Cumulative Review

1. \$180
2. May 29
3. \$407
4. 11.5 h
5. \$83.38

What's the Math?

Students consider the timing of earnings and consider how this will affect the amount an employee is paid per month. For example, employees paid by the week will receive more money in a month with five weeks (which happens four to five times a year). Employees paid bi-weekly have mostly two-pay and some three-pay months. Employees who are paid semi-monthly receive the same amount in each pay cheque.

Students learn what vacation pay is and calculate vacation pay at a rate of 4% and 9% per annual earnings. Then, students calculate the combined income of a couple and determine their average monthly and weekly earnings. Students compare how much people would receive each pay if they are paid weekly, bi-weekly, semi-monthly, and monthly.

Warm Up Notes

Questions 1 to 3 provide opportunities to assess students' calendar and time knowledge. Question 4 can be used to observe how students write numbers, e.g., \$3 000 000, \$3,000,000, or \$3000000. You might point out that the metric method (space between the numbers) is common. Both it and the method with commas between the thousands are easier to read than the method with no spacing or commas.

Answers to Warm Up (page 20)

1. January, 31
February, 28/29
March, 31
April, 30
May, 31
June, 30
July, 31
August, 31
September, 30
October, 31
November, 30
December, 31

2. a) hour
b) 24
c) day
d) The remaining answers may vary depending on whether students choose 7 days or 30 (or 28/29, or 31) days. Students can answer all of these numbers of days in a month, or only one or two.
e) week or month
f) 52 weeks or 12 months
g) year
3. 52
4. \$3 000 000

Activity Planning Notes

Depending on students' experience, question 1 will set up the rest of the section. If you wish to do this as a class, make **BLM 1–3 Timing of Earnings** into an overhead. Take time information for each student and yourself, and then have students choose which five they record. Encourage them to record five different methods, if available.

Question 2 leads in to question 3, and could be done as a whole group discussion. Have at least one current calendar available per pair of students. You may wish to make an overhead of **Master 6 Calendar Templates** or refer students back to the three-month calendar at the top of page 18 to illustrate that some months have five weeks (i.e., if someone is paid on a Friday, they would receive five pays during December in that calendar). Have students check the current calendar to see how often this happens in a year. Discuss whether it will occur in the same months each year.

Students can do questions 3 and 4 independently. Take up, discuss, and check for understanding before moving on. In a similar fashion, move through the remainder of the section. Stop to discuss and take up the work as needed. Discuss with the class how to answer question 8b) before students start it.

Speed Bump

- For some students, the entire Warm Up may be difficult.
- R_x** Teach students a memory device for remembering the number of days in each month. One such method is to make a fist and point to the first knuckle as January (31 days) and February as the depression between the first two knuckles (not 31). All the “knuckle months” have 31 days, and all the “non-knuckle months” have 30 days.

Accommodations

- Provide **BLM 1–3 Timing of Earnings** to students who need extra space to complete question 1.

Speed Bump

- Some students will have difficulty understanding the difference between a “four-pay month” and a “five-pay month.”
- R_x** Have a yearly calendar available. Choose a pay day and review how many of those days are in each month. You may wish to change the pay day and see how the months with four or five pays change.

Accommodations

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

When students begin work on the semi-monthly payment schedule (page 24), discuss the advantages and disadvantages of this compared to a weekly or bi-weekly pay schedule.

Conclude the section by having students complete the Check Your Understanding question. Alternatively, the Check Your Understanding could be used as a quiz during the next class.

Answers to Activity Questions (pages 21–25)

1. Answers will vary
2. a) 52 b) 4 c) 7–8
d) Some months have five of one particular day, e.g., five Fridays
e) 4
3. a) \$405 b) \$1620
c) \$2025 d) \$19 845
4. \$793.80
5. a) 26 b) 2, 3
6. a) 80 h b) \$2204 c) \$4408
d) \$6612 e) \$52 896
7. \$52 896, \$4760.64
8. a) \$78 295.44 b) \$6524.62, \$1505.68
Blank: 2
9. 24
10. a) \$2833.33 b) \$5666.66 or \$5666.67
c) \$68 000 d) She always gets paid the day before.

Answers to Check Your Understanding (page 25)

1. a) 52, 26, 24, 12
b) \$615.38, \$1230.77, \$1333.33, \$2666.67
c) \$855.77, \$1711.54, \$1854.17, \$3708.33
d) \$57 692.31, \$115 384.61, \$125 000, \$250 000

Ongoing Assessment

- Check student ability to participate in discussions.
- Check student answers to the Check Your Understanding to make sure that they understand the concepts being addressed and can do the calculations correctly.



Challenge!

After completing the Check Your Understanding, ask students which way they would prefer to be paid, and why.

Have students research the annual earnings of a favourite athlete, actor, musician, or singer, then calculate how much they receive weekly, bi-weekly, semi-monthly, and monthly.

1.4 Understanding Different Pay Schedules (page 26)

SUGGESTED TIMING

75–150 min

MATERIALS

- calculator

BLACKLINE MASTERS

BLM 1–4 Three-Month Calendar

Specific Expectations

EP1.02 – gather, interpret, and describe information about different remuneration methods and remuneration schedules

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

Cumulative Review

1. Calculate the bi-weekly gross pay for someone who works 44 hours per week at \$9.80/h.
2. Calculate the annual earnings of someone who earns \$550 per week.
3. How much time is between 6:30 a.m. and 5 p.m.?
4. You make 4.5% commission and sell \$36 000 in electronic equipment. How much commission do you receive?
5. An employee receives 4% vacation pay. He earns \$29 800 per year. How much vacation pay should he receive?

Answers to Cumulative Review

1. \$862.40
2. \$28 600
3. 10.5 h
4. \$1620
5. \$1192

What's the Math?

Different pay schedules require different budgeting. In this section, students examine the effect a pay schedule has on how and when people schedule their fixed expenses, such as a mortgage, car payments, and insurance. Students consider how being paid overtime affects someone's pay rate.

Warm Up Notes

Questions 1 to 3 review fractions. Students who took Math Essentials 9 or 10 have answered a number of questions like these. The Warm Up provides common contexts that will remind students of the size of $\frac{1}{2}$. Understanding this fraction is important in calculating overtime because people get paid time and a half.

Question 4 asks students to add and then subtract. Questions 5, 7, and 8 check that students understand the monthly calendar. Question 6 reviews time.

Accommodations

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

Answers to Warm Up (page 26)

1. a) 6

b) 4.5 (or $4\frac{1}{2}$)

c) \$8.25

2. a) 1 cup

b) $1\frac{1}{2}$ cups

3.



4. 9

5. 10th, 17th, 24th

6. a) 30

b) 90

c) 180

7. January, March, May, July, August, October, December

8. 4

Activity Planning Notes

Much of this section involves discussion about decision-making possibilities for the characters in the section. Ensure students read the bullets preceding each set of questions. Stop and take up the work as needed before engaging in the discussions.

Have students read the information at the bottom of page 26 and the top of page 27, and then highlight what they need to know about Juha's job.

Note: In the first printing of *Mathematics 11 Workplace and Everyday Life*, the dates in the first column of the chart on page 27 were incorrect. Have students check the calendar and change the dates to June 5, June 12, June 19, and June 26. This error was fixed in the second printing.

Accommodations

- You may wish to make **BLM 1–4 Three-Month Calendar** into an overhead and use it in your discussion of question 1. Use the same overhead to review how often Juha would be paid in each month if he were paid on Monday instead of Friday.

Speed Bump

- When working through question 6, some students will have all of Karen's expenses paid on one day since her pay is greater than her total expenses.
- R_x** Have students discuss the advantages and disadvantages of this plan. Ask students to determine what might be a more realistic plan for paying monthly bills.

Students may find it interesting to see that Juha being paid on Mondays instead of Fridays would give him two five-pay months in May and July. If he is paid on Thursday, on the other hand, he would have a five-pay month in June only.

Continue to use the calendar to discuss question 2. Have students put a square around the dates that Juha's rent and insurance are due, and compare these dates to when he gets paid. In some months, both of these occur in one pay period. Discuss the planning Juha needs to do in order to pay them.

Encourage students to use different colours to mark the page 27 calendars for the pay schedules in questions 3 and 4. Alternatively, you may wish to hand out copies of **BLM 1–4 Three-Month Calendar**. This has two copies of the three-month calendar, one for use with question 3 and one for use with question 4.

Students might want to use the calendar again when discussing question 6. You might discuss as a class whether the last day of each month might work for a payment, since this date changes from month to month.

Some workers use overtime to help them meet fixed expenses. Many students will have had experience with overtime. Ask them to share what they have received, and when. Demonstrate how time and a half and double time can affect an hourly rate of \$7.50. Have students figure out the new hourly rates by hand, then check how to calculate them using their calculator.

Literacy Link

Reading calendars is an important literacy skill. Make sure that students notice how the different lengths of each month affect the day of the week that different dates fall on from month to month—and therefore the results that pay schedules have on people paying bills on a particular day of the month. Discuss what they need to do if the payment day occurs on a weekend or on a statutory holiday.

Review the meaning of “time and a half” and “double time.” Have students use an example to illustrate that they understand these terms.

Speed Bump

- Often, students will attempt to answer the questions without fully reading the information preceding them.
- R_x** Read aloud, if necessary. Stop and discuss questions to keep students together and make sure they understand what is being discussed.

Accommodations

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

Answers to Activity Questions (pages 27–29)

- a)** June 5: \$792, Friday, June 9th;
June 12: \$1008, Friday, June 16th;
June 19: \$936, Friday, June 23rd;
June 26: \$774, Friday, June 30th;
Monthly Totals: 195, \$3510
b) Juha was paid on June 2. His pay for the first week of June was on June 9.
- Answers may vary. Allow any reasonable response, such as
 - Sometimes both of these payments come in the same pay period. He doesn't make enough in one pay period to cover both payments.
 - Both of these are monthly expenses. He needs to put a little aside each week in order to prepare for the next month's payments.
- Answers will vary. Accept either yes or no, as long as students provide a reasonable explanation, such as
No. This may make it more difficult in months like May if the two payments are due in one week and that week falls between pay cheques.
Yes. This might make it easier for Juha to budget because he receives more money each time and might be able to handle that better.

- Answers may vary. Allow any reasonable response, such as

Yes. Juha will always be paid the day before rent and three days before car insurance is due.

No. The end of the month changes from month to month. Some months will be longer than others. This will be nice in February, a short month, but may be difficult in the longer months.

- approximately \$3200
- a)** \$1479
b) Answers may vary. Again, accept any responses that have a reasonable answer. Discuss the advantage of paying the mortgage on the 1st and all other fixed expenses on the 16th.
- You get paid on the same date, which makes paying fixed expenses easier. It also eliminates “calendar watching.”
- Answers will vary but may include groceries, gas, clothes, gifts, savings, charity, and entertainment. Encourage students to consider what they spend money on each month.

Answers to Activity Questions *continued*
(pages 30–31)

9. a) Employees earns $1\frac{1}{2}$ times their regular hourly rate.

b) Students' calculator key sequences may vary.

C 12 \times 1.5 $=$ is the easiest.

It would also work to key

C 12 \div 2 $=$ $+$ 12 $=$.

10. a) \$21.90

b) \$17.10

c) \$16.13

11. a) \$554.80

b) $\$13.87 \times 2 = \27.74 ; $\$27.74 \times 8 = \221.92

Answers to Check Your Understanding (page 31)

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

Ongoing Assessment

- Check student ability to make the 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.

Challenge!



Have a discussion about the challenges with bill-paying and financial planning that a server might have when tips vary from day to day. Brainstorm what a server might do to work around that.

Chapter 1 Review (page 32)

SUGGESTED TIMING

75 min

MATERIALS

- calculator

BLACKLINE MASTERS

BLM 1–5 Chapter 1 Word Puzzle
BLM 1–6 Chapter 1 Word Search
BLM 1–7 Chapter 1 Practice Test
BLM 1–8 Chapter 1 Final Test

Using the Chapter Review

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.
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 questions 1 and 2, and then take up those questions. Then, have students do questions 3 and 4 and take up those questions. Have students complete question 5. This process will eliminate the problem of students rushing through and completing many questions incorrectly.

Reteach concepts and/or procedures as necessary. To provide additional reinforcement of the glossary words for this chapter, have students complete **BLM 1–5 Chapter 1 Word Puzzle** and **BLM 1–6 Chapter 1 Word Search**.

Review Guide

Question	Section(s)	Refer to
1	1.1	Calculating Gross Pay (page 12)
2	1.2	Ways of Being Paid (page 17)
3	1.2	Ways of Being Paid (page 18)
4	1.3	The Timing of Earnings (page 23)
5	1.4	Planning and Pay Schedules (page 30)

Accommodations

- Students may benefit from making a chapter summary page that includes the key ideas/skills from the chapter. You may wish to do this as a class, or have them do it individually. There is room on the pages inside the back cover of the student resource for students to record this information.
- When students have difficulty with 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 a test or the chapter Task. You can easily produce extra reinforcement questions by customizing **BLM 1–7 Chapter 1 Practice Test**.

Chapter 1 Review Answers (pages 32–33)

1. Answers will vary and may include the following
 - How is the bonus determined?
 - What skills/responsibilities are involved?
 - What are the hours?
2. a) \$738.40
b) \$1131.52
c) \$708.48
d) \$510.48
3. a) \$425, \$180, \$605
b) \$425, \$156.80, \$581.80
c) \$425, \$104.16, \$529.16
d) \$425, \$134.16, \$559.16
4. a) 88
b) \$2041.60
c) \$4083.20
d) \$6124.80
5. a) \$557.60
b) \$20.91
c) \$167.28
d) \$724.88
e) \$1282.48

Summative Assessment

- Have students complete **BLM 1–8** **Chapter 1 Final Test** to assess individual skills.

Task: Which Job Do I Accept? (page 34)

SUGGESTED TIMING

30–75 min

MATERIALS

- calculator

BLACKLINE MASTERS

BLM 1–9 Chapter 1 Task
BLM 1–10 Chapter 1 Task Rubric
BLM 1–11 BLM Answers

Specific Expectations

EP1.01 – gather, interpret, and compare information about the components of total earnings in different occupations

EP1.02 – gather, interpret, and describe information about different remuneration methods and remuneration schedules

EP1.04 – solve problems, using technology, and make decisions involving different remuneration methods and schedules

Activity Planning Notes

The Task page in the student resource provides opening content for a longer Task that is scaffolded on **BLM 1–9 Chapter 1 Task**.

Read the situation aloud. Discuss and have students answer all the questions. The questions on the Task page have more than one possible answer. 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. Read the first two paragraphs aloud and check for student understanding 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.

Summative Assessment

- Use **BLM 1–10 Chapter 1 Task Rubric** to assist you in assessing student work on this Task.

Task Answers (page 34)

1. Answers may vary. Encourage students to consider questions that would help them get a better understanding of the job and its benefits and drawbacks, such as the following:
 - How many hours do you want me to work per week?
 - Please explain the pay package.
 - How much does the average new employee get paid per week? What is the range?
 - When do you want the new people to start?
 - What is the uniform? Who pays for it?
 - How much does the uniform cost?
 - (for the one paying part commission) What percent commission do you pay on sales? How much do beginning employees usually sell?

2. Answers will vary. Encourage students to consider the skills they learned during this chapter. Look for answers such as the following:
 - possible weekly income
 - possible commission income
 - possible monthly income
 - possible future income
3. Answers will vary. Accept any reasonable responses, such as
 - location
 - schedule of hours
 - number of hours
 - other employees
 - uniform
 - type of work involved