

4

Chapter Review

Key Words

Unscramble the letters for each puzzle. Use the clues to help you solve the puzzles.

1. R C E E T N P

_____ means out of 100.

2. C R A T F I O L N A

A _____ percent is a percent that includes a portion of 1%.

3. M C N O B D E I

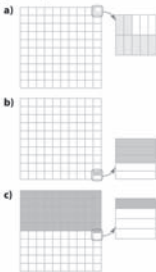
Percents that are added together are _____ percents.

4.1 Representing Percents, pages 122–129

4. How many hundred grids are needed to show each of the following percents?

- a) 101% b) 589% c) 1450%

5. What percent does each diagram represent? One completely shaded grid represents 100%.



6. Use hundred grids to represent each percent.

- a) 110% b) $\frac{1}{10}$ % c) $7\frac{7}{8}$ %
d) 172.5% e) 0.75% f) 500%

7. Use hundred grids to show

- a) 0.4% b) 12% c) 115%

8. Represent the percent in each statement on a hundred grid.

- a) 79.1% of all students are right-handed.
b) The average person in Canada uses about 223% as much water per day as the average person in France.
c) The school enrollment increased by 0.8% this year.

4.2 Fractions, Decimals, and Percents, pages 130–137

9. Copy and complete the following table. The first row is done for you.

Fraction	Decimal	Percent
$1\frac{2}{5}$	1.4	140%
a)	0.115	
b)		$23\frac{3}{4}$ %
c) $\frac{3}{200}$		
d)	3.85	

10. A coach asked the team to give 110%.

- a) What is this value as a fraction and as a decimal number?
b) What does this statement mean to you?

11. Express each percent as a decimal number and as a fraction. Rewrite each sentence using either the decimal or fraction form.

- a) Kyle scored 95.5% on a practice test.
b) The store's sales increased by 140%.
c) By getting your car tuned up, you can reduce emissions by $\frac{9}{10}$ %.

4.3 Percent of a Number, pages 138–143

12. Determine the following. Write your answer to the nearest tenth.

- a) 115% of 230
b) $80\frac{3}{4}$ % of 50
c) 500% of 0.02
d) $\frac{1}{10}$ % of 800
e) $63\frac{4}{5}$ % of 12 000
f) 0.05% of 1 000 000

13. A photocopier increased a diagram to 250% of its original size. What is the enlarged length of the diagram if its original length was 2.5 cm?

14. Julia borrowed \$100 from her brother. Her brother charged her $5\frac{1}{2}$ % interest per month on the loan. She paid him back after one month. How much interest did she pay?

15. A forester recorded the following data on tree types.

Tree Species	Number of Trees
Fir	567
Pine	324
Larch	156
Cedar	89
Hemlock	678

- a) What is the total number of trees recorded?
b) What percent of the total does each tree species represent?



4.4 Combining Percents, pages 144–149

16. The cost of an airline ticket is \$289.50. Added to this cost is 5% GST, 7% PST, 1% airport improvement fee, and $\frac{3}{4}$ % booking fee. What is the total cost of the ticket?

17. One year, the towns of Cedarville and Pinedale each had the same population of 1200. Over the next two years, the population of Cedarville increased by 8% one year and 7% the next year. Over the same two years, the population of Pinedale increased by 15%.

- a) Did the population of each town increase by the same amount? Explain.
b) What was the new population of each town?

MathLinks 8, pages 150–151

Suggested Timing

40–50 minutes

Materials

- hundred grids
- coloured pencils
- ruler
- calculator

Blackline Masters

Master 10 Hundred Grids

Master 18 Concept Map

BLM 4–5 Section 4.1 Extra Practice

BLM 4–8 Section 4.2 Extra Practice

BLM 4–10 Section 4.3 Extra Practice

BLM 4–12 Section 4.4 Extra Practice

Planning Notes

Students could work in pairs or small groups to complete the review. Provide them with **Master 10 Hundred Grids**. Encourage students to use mental math strategies to solve and/or check the reasonableness of answers to problems involving percents. If students encounter difficulties, encourage them to refer to their chapter Foldable, learning logs, and previously completed questions in the related sections of the student resource.

Consider having students make a list of the questions that they found difficult and use the list to help them prepare for the practice test.

Literacy Link Have students use **Master 18 Concept Map** to develop a second concept map, without looking at the one they did at the beginning of the chapter, showing what they now know about percents.

Meeting Student Needs

- Allow students to complete the chapter review using a combination of oral descriptions, diagrams, and written answers.
- Encourage students to use their chapter Foldable and to add new notes if they wish.
- Some students may struggle with setting up a ratio. Consider using an example to model a strategy for setting up a ratio such as the following one:

The GST is 5%. How much GST would you pay on an item that costs \$54?

- Express the given information as a ratio in fraction form: $\frac{5}{100}$
- Express the unknown information in words: sales tax on \$54
- Express the unknown information as a ratio in fraction form: $\frac{x}{54}$
- Set up the ratio and solve it: $\frac{5}{100} = \frac{x}{54}$
 $x = \$2.70$

- Students who require more practice on a particular topic may refer to **BLM 4–5 Section 4.1 Extra Practice**, **BLM 4–8 Section 4.2 Extra Practice**, **BLM 4–10 Section 4.3 Extra Practice**, and **BLM 4–12 Section 4.4 Extra Practice**.

ELL

- Have students develop examples of percent, fractional percent, and combined percent, and share them with a partner.

Gifted and Enrichment

- Some students may already be familiar with the skills handled in this review. To provide enrichment and extra challenge, go to www.mathlinks8.ca and follow the links.

Common Errors

- Students may work so quickly through the chapter review or check answers so frequently that they do not observe their errors in procedure or calculation.
- R_x** Encourage students to take time and treat the chapter review as an important measure of their learning and as an opportunity to strengthen their understandings.

Assessment	Supporting Learning
Assessment for Learning	
<p>Chapter 4 Review The Chapter 4 Review is an opportunity for students to assess themselves by completing selected questions in each section and checking their answers against the answers in the back of the student resource.</p>	<ul style="list-style-type: none"> • Have students check the contents of the What I Need to Work On tab of their chapter Foldable and do at least one question related to each listed item. • Have students revisit any section that they are having difficulty with prior to working on the chapter test.
<p>Literacy Link Have students use Master 18 Concept Map to develop a second concept map, without looking at the one they did at the beginning of the chapter, showing what they now know about percents.</p>	<ul style="list-style-type: none"> • Have students compare their two concept maps and highlight any items they included in the second concept map that were not in the first. Emphasize the amount of learning this difference represents.