



### Alberta Math Education Curriculum Component: NUMBER Unit Chapter 6: Ratio and Percent

**General Outcome:**

→ Develop number sense.

**Students will able to:**

- model and interpret ratios and percents
- represent ratios and percents in different ways
- solve problems that involve ratios and percents
- use scale diagrams
- communicate about ratios and percents

**Alberta Math Education Specific Concept (learning outcome):** 5 and 6.

Classroom assessment is generally divided into three types: *assessment for learning* (Diagnostic Assessment: D), *assessment of learning* (Summative Assessment: S), *assessment as learning* (F).

→ For lesson **extra practice**, please visit:

<http://www.nelson.com/mathfocus/grade6/student/tryout.html>

**Lesson Outline:**

Lesson	Textbook Lesson Title	Learning Goals	Task **	Done
1	6.1- Ratios	Identify and model ratios to describe situations	Scaffolding for Getting Started (D) <input type="checkbox"/> HW: Workbook (pg. 42) (F)	
2	6.2- Equivalent Ratios	Use equivalent ratios to solve problems.	<input type="checkbox"/> HW: Workbook (pg. 43) (F) <input checked="" type="checkbox"/> On line: Extra Practice	
3	6.3- Percents	Represent and describe parts of a whole using percents.	<input type="checkbox"/> HW: Workbook (pg. 44) (F) <input checked="" type="checkbox"/> On line: Extra Practice	
4	<b>Mid-Chapter Review</b>	Preparation for the quiz:  Quiz Date: __/__/__ (mm/dd/yyyy)	<input type="checkbox"/> Textbook: Pg 191 # 1-8 (DOSO on letter) (F)	
5	6.4- Percents as Fractions or Decimals	Relate percents to equivalent fractions and decimals.	<input type="checkbox"/> HW: Workbook (pg. 45) (F) <input checked="" type="checkbox"/> On line: Extra Practice	
6	6.6- Solving Percent Problems	Estimate and calculate percents to solve problems.	<input type="checkbox"/> HW: Workbook (pg. 47) (F) <input checked="" type="checkbox"/> On line: Extra Practice	
7	6.7- Communicating about Ratios and Percents	Use clear language to describe how to solve ratio and percent problems.	<input type="checkbox"/> HW: Workbook (pg. 48) (F) <input checked="" type="checkbox"/> On line: Extra Practice	
9	<b>Chapter Review</b>	Preparation for the test:  Test Date: __/__/__ (mm/dd/yyyy)	<input type="checkbox"/> Textbook: (F) → Pg. 203-204 (Q1 to Q16: DOSO on letter) → Workbook (pg. 49) <input type="checkbox"/> Handout: (S) → Chapter 6: Journal Questions → Chapter 6: Self-Assessment: Lesson Goals → Review of Essential Skills: Chapter 6	

Here are some of the *Key Words* that are being used in this chapter:

* ratio	* equivalent ratio	* percent	* scale diagram
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**\*\* If the class work is not completed during class time, must be done for homework.**

I have read and went over this "Number -Unit 1 Plan (Chapter 6)" with my child. JazakAllahu khayran

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Parent/Guardian name (print)

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Parent/Guardian signature

---/--/---- (dd/mm/yyyy)



Address: 14525 127 ST, Edmonton, AB T6V 0B3 Phone: (780) 454-4573

## RE: Chapter 6: Ratio and Percent Information Letter

As-salaamu Alaikum Wa Rahmatu Allahi Wa Barakaatuhu, ("Peace be unto you and so may the mercy of Allah and His blessings"),

Dear Respected Parents and Guardians of Grade 6:

Over the next three weeks, your child will be learning about ratios and percents and how to represent ratios and percents in different ways. Your child will solve problems using applications such as screen sizes, scale diagrams, populations, money, and measurement. Your child will also make connections among ratios, percents, fractions, and decimals.

To reinforce the concepts your child is learning at school, you and your child can work on some at-home activities such as these:

- Have your child practise identifying useful percents (10%, 25%, 50%) of simple numbers like 50, 100, ....
- Your child can look for the use of ratios and percents in the media.
- You can help your child research statistics on the Internet and discuss how the percents in the statistics apply to a certain number of people in your child's school, city, or region.

You may want to visit the Nelson website at

**<http://www.mathk8.nelson.com/math6/studentcentre/studtryout.html>** for more suggestions to help your child learn mathematics and develop a positive attitude toward learning mathematics. As well, you can check the Nelson website for links to other websites that provide online tutorials, math problems, brainteasers, and challenges.

Sincerely,

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Mustafizur Rahman, **ATA, OPC, OCT**  
**Ed.D** (candidate), **MEd, BEd, BSc**  
Grade 6 Math

# Scaffolding for Getting Started Page 1

STUDENT BOOK PAGES 176-177

## Where Were You Born?

The students in Nia's school were born in many different places. This chart shows the number of students in four classes and the fraction of these students who were born in Asia.

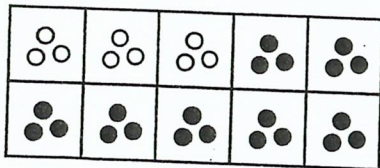
### Fraction of Students Born in Asia



Class	Number of students	Fraction of students born in Asia
Sandy's class	30	$\frac{3}{10}$
Nia's class	25	$\frac{2}{5}$
Takeshi's class	28	$\frac{1}{4}$
Adrian's class	30	$\frac{2}{6}$

### ? Whose class has the most students born in Asia?

A. The picture below shows white and grey counters in a rectangle divided into ten parts. How can you use this picture to figure out the number of students in Sandy's class who were born in Asia?



• How do the counters show the whole class?  
\_\_\_\_\_

• How do the counters show the fraction of the students in Sandy's class who were born in Asia?  
\_\_\_\_\_

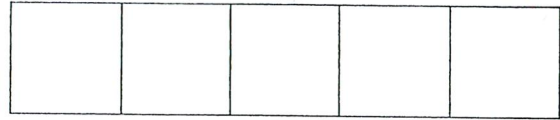
• How do the counters show the number of students in Sandy's class who were born in Asia?  
\_\_\_\_\_

• How many students in Sandy's class were born in Asia?  
\_\_\_\_\_ students

# Scaffolding for Getting Started Page 2

STUDENT BOOK PAGES 176-177

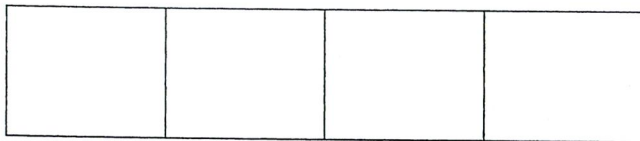
**B.** Nia's class has 25 students.  $\frac{2}{5}$  of them were born in Asia. How can you use counters and a rectangle divided into five parts to figure out the number of students born in Asia in Nia's class?



- \_\_\_\_\_ out of every \_\_\_\_\_ students in Nia's class were born in Asia, so \_\_\_\_\_ parts of the five parts in the rectangle can represent \_\_\_\_\_.
- How many students in Nia's class were born in Asia? \_\_\_\_\_ students

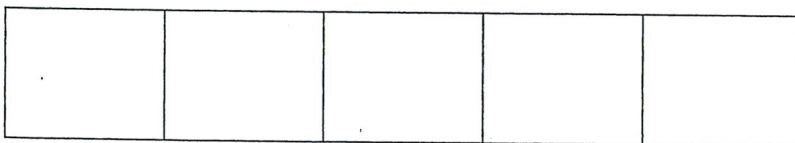
**C.** Use coloured counters and a rectangle to figure out the number of students born in Asia in Takeshi's class and in Adrian's class. Sketch what you did.

Takeshi's class:



\_\_\_\_\_ students in Takeshi's class were born in Asia.

Adrian's class:



\_\_\_\_\_ students in Adrian's class were born in Asia.

**D.** How were your rectangles in Part C different from the rectangle in Part A? Explain why they were different.

\_\_\_\_\_

\_\_\_\_\_

**E.** Whose class has the most students born in Asia? \_\_\_\_\_

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Mid-Chapter Review—Frequently Asked Questions

STUDENT BOOK PAGE 190

**Q:** What is the difference between a part-to-part ratio and a part-to-whole ratio?

**A:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Q:** What are equivalent ratios?

**A:** \_\_\_\_\_  
\_\_\_\_\_

**Q:** How can you use percents to represent parts of a whole?

**A:** \_\_\_\_\_  
\_\_\_\_\_

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Chapter Review—Frequently Asked Questions

STUDENT BOOK PAGE 202

**Q:** How can you express a percent as a fraction or a decimal?

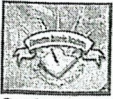
**A:** \_\_\_\_\_  
\_\_\_\_\_

**Q:** How is a ratio used on a scale diagram?

**A:** \_\_\_\_\_  
\_\_\_\_\_

**Q:** How can you estimate and calculate percents of numbers?

**A:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**Unit: Number**  
Chapter 6: Ratios and Percent

**Journal Questions** (Hint: *Make sure to show all your work.*):

1. The ratio of a person's height to the distance from the person's belly button to the floor is about 16:10. About how tall is a person whose belly button is 90 cm from the floor?  
A. 144 cm    B. 160 cm    C. 120 cm    D. 190 cm
  
2. About 29% of all ice cream sold is vanilla. About 9% is chocolate. About 5% is strawberry. About what percent of ice cream sold is not vanilla, chocolate, or strawberry?  
A. 57%    B. 71%    C. 43%    D. 33%
  
3. Caleb coloured more than 0.72 of the squares on a hundredths grid but less than of the squares. What percent of the grid might Caleb have coloured?  
A. 75%    B. 74%    C. 82%    D. 70%
  
4. Cristina has 500 pennies in a jar. The jar is 10% full. How many pennies will be in the jar when it is 50% full?  
A. 1000    B. 5000    C. 2500    D. 10 000





## Chapter 6 Self-Assessment: Lesson Goals

Place a check mark in the box that best describes your work.

Lesson Goals	Yes, on my own	Yes, with help	Sometimes/ Not sure	Not yet
I can identify and model ratios to describe situations.				
I can use equivalent ratios to solve problems.				
I can represent and describe parts of a whole using percents.				
I can relate percents to equivalent fractions and decimals.				
I can use ratios and percents to describe scale diagrams.				
I can estimate and calculate percents to solve problems.				
I can use clear language to describe how to solve ratio and percent problems.				
<p>Choose one of your answers from above. Give your evidence.</p> <p>My evidence for _____ is</p> <p>_____</p> <p>_____</p> <p>_____</p>				

## Chapter 6: Ratio and Percent

1. Write each fraction as an equivalent fraction with a denominator of 100.

a)  $\frac{1}{2} = \frac{\quad}{100}$

d)  $\frac{3}{5} = \frac{\quad}{100}$

b)  $\frac{1}{4} = \frac{\quad}{100}$

e)  $\frac{18}{20} = \frac{\quad}{100}$

c)  $\frac{3}{4} = \frac{\quad}{100}$

f)  $\frac{8}{20} = \frac{\quad}{100}$

2. Write each fraction as a decimal.

a)  $\frac{4}{10}$  \_\_\_\_\_

d)  $\frac{8}{10}$  \_\_\_\_\_

b)  $\frac{3}{100}$  \_\_\_\_\_

e)  $\frac{14}{100}$  \_\_\_\_\_

c)  $\frac{61}{1000}$  \_\_\_\_\_

f)  $\frac{7}{1000}$  \_\_\_\_\_

3. Write each decimal as a fraction.

a) 0.35 \_\_\_\_\_

d) 0.6 \_\_\_\_\_

b) 0.125 \_\_\_\_\_

e) 0.85 \_\_\_\_\_

c) 0.375 \_\_\_\_\_

f) 0.127 \_\_\_\_\_

4. A recipe uses 1 scoop of sugar for every 2 scoops of flour.  
How many scoops of sugar should you use if you use 6 scoops of flour? \_\_\_\_\_