

# Chapter 8 Problem Wrap-Up

**Student Text Page**  
457

**Suggested Timing**  
40 min

**Related Resources**  
BLM 8-14 Chapter 8 Problem  
Wrap-Up Rubric

## Teaching Suggestions

- Remind students to keep track of their solutions to the Chapter Problem questions. Discuss how the Chapter Problem questions relate to the Chapter Problem scenario.
- Students should research various investment rates and decide on the most lucrative choice for the Kwan family.

### Level 3 Sample Response

The Kwans have \$250 000 from the sale of their business and a total of \$80 675.68 from their investments in Section 8.5. The total amount they have to invest is \$330 675.68.

The six best investment options I found are shown in the table. The options with the higher interest rates have more money invested in them.

#### Investment Plan

	Financial Institution	Type	Annual Interest Rate	Term Length	Amount Invested
<b>Option 1</b>	Scotiabank	fixed rate GIC	3.85%	6 years	\$30 000
<b>Option 2</b>	Scotiabank	fixed rate GIC	3.95%	8 years	\$30 000
<b>Option 3</b>	Scotiabank	increasing rate GIC	Year 1: 3.00% Year 2: 3.05% Year 3: 3.15% Year 4: 4.00% Year 5: 7.50% Effective Annual Rate: 4.1260%	5 years	\$180 675.68
<b>Option 4</b>	TD Canada Trust	increasing rate GIC	Year 1: 3.30% Year 2: 3.45% Year 3: 4.10% Effective Annual Rate 3.616%	3 years	\$30 000
<b>Option 5</b>	Bank of Montreal (BMO)	fixed rate GIC	3.250%	7 years	\$10 000
<b>Option 6</b>	ING Direct	cashable GIC	Years 1 to 4: 4.00% Year 5: 4.10%	4 years	\$50 000

Interest on all GICs is compounded yearly.

The yearly growth of each investment option is shown in the table.

#### Investment Growth

Year	Option 1 (\$)	Option 2 (\$)	Option 3 (\$)	Option 4 (\$)	Option 5 (\$)	Option 6 (\$)
1	31 155.00	31 185.00	186 095.95	30 990.00	10 325.00	52 000.00
2	32 354.47	32 416.81	191 771.88	32 059.16	10 660.56	54 080.00
3	33 600.11	33 697.27	197 512.69	33 373.58	11 007.03	56 243.20
4	34 893.72	35 028.31	205 725.20		11 364.76	58 492.93
5	36 237.13	36 411.93	221 154.59		11 734.11	
6	37 632.26	37 850.20			12 115.47	
7		39 345.29			12 509.23	
8		40 899.43				

The maturity value of each investment option and the total value of the Kwan's investments are shown in the table.

#### Investment Value on Maturity

	Term Length	Amount Invested (\$)	Total Interest Earned (\$)	Total Investment Value (\$)
Option 1	6 years	30 000	7332.26	37 632.26
Option 2	8 years	30 000	10 899.43	40 899.43
Option 3	5 years	180 675.68	40 478.90	221 154.59
Option 4	3 years	30 000	3373.58	33 373.58
Option 5	7 years	10 000	2509.23	12 509.23
Option 6	4 years	50 000	8492.93	58 492.93
Final Total		330 675.68	73 386.34	404 062.02

The Kwans earned a total of \$73 386.34 in interest on their investment of \$330 675.68.

### Level 3 Notes

Look for the following:

- appropriate solutions for all parts of the problem with minor errors
- understanding of compound interest and the benefits of various rate differences and compounding periods
- understanding of problem solving techniques
- organised solution and clear justification for responses
- effective use of financial terms

### What Distinguishes Level 2

Look for the following:

- some appropriate solutions for most parts of the problem with some significant errors
- some understanding of compound interest and some understanding of the various rate differences and compounding periods
- some understanding of problem solving techniques, but difficulty in applying the techniques
- somewhat organised solution and some justification for responses
- somewhat effective use of financial terms

### What Distinguishes Level 4

Look for the following:

- appropriate and detailed solutions for all parts of the problem with very few or no errors
- thorough understanding of compound interest and various rate differences and compounding periods
- highly effective use of problem solving techniques
- highly organised solution and clear, accurate, and detailed justification for responses
- highly effective use of financial terms

### Summative Assessment

- Use **BLM 8-14 Chapter 8 Problem Wrap-Up Rubric** to assess student achievement.