SAMPLE PAGES
Visible Thinking in Mathematics 2B (2nd Edition)

Preface

The ***Visible Thinking in Mathematics*** series promotes critical and creative thinking in mathematics. It is designed to help make thinking visible by providing the child with opportunities to think, explore and reflect.

While practice leads to better performance, practice without contextual and conceptual understanding prevents the child from thinking critically and creatively. In this series, instead of learning procedures and formulas by rote, the child masters concepts through:

Thinking routines: functional questions to direct the child's thinking on key concepts and cultivate the child's thinking skills.

Parallel questions: consecutive mathematical problems with the same context but different key words to highlight differences between problems; ensuring that the child understands and retains concepts and skills better.

This approach not only instills in the child mathematical skills but also inspires discipline in thinking and greater motivation for learning.

Additional support is provided to the child through Notes. Notes present opportunities for parents and teachers to clarify misconceptions, simplify difficult concepts and address areas of difficulty for the child.

At the end of each chapter, there is a Summative Test for the child to recap and practise what he has learnt throughout the chapter. The 'Think Out Of The Box' section, following the Summative Test, includes questions that stretch the child's thinking beyond the routine.

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Contents

	Thinking Platform	Attaining Mastery
Chapter 8 Money		
Counting The Amount Of Money In A Given Set	1	3
Changing Cents And Dollars	8	9
Comparing Amounts Of Money	10	11
Word Problems Involving Money	13	14
Chapter 9 Length		
Measuring And Comparing Lengths	24	26
Problem Solving Involving Length	33	34
More Addition And Subtraction Of Length	37	38
Measuring Gaps And Intervals	43	45
Chapter 10 Mass		
Measuring Mass	53	55
Comparing Mass	57	58
Chapter 11 Volume		
Comparing Volume	71	73
Measuring In Litres	75	77
Finding The Volume	80	81
Word Problems Involving The Four Operations	85	86

SAMPLE

	Thinking Platform	Attaining Mastery
Chapter 12 Time		
The Minute Hand	94	96
Reading And Writing Time To 5 Minutes	97	99
Use Of a.m. And p.m.	105	106
Time Taken In Hours And Minutes	107	108
Chapter 13 Graphs		
Reading And Making Picture Graphs With Scales	113	117
Chapter 14 Shapes And Patterns		
Shapes And Two-Dimensional Figures	132	134
Three-Dimensional Figures	144	145
Answers	151	

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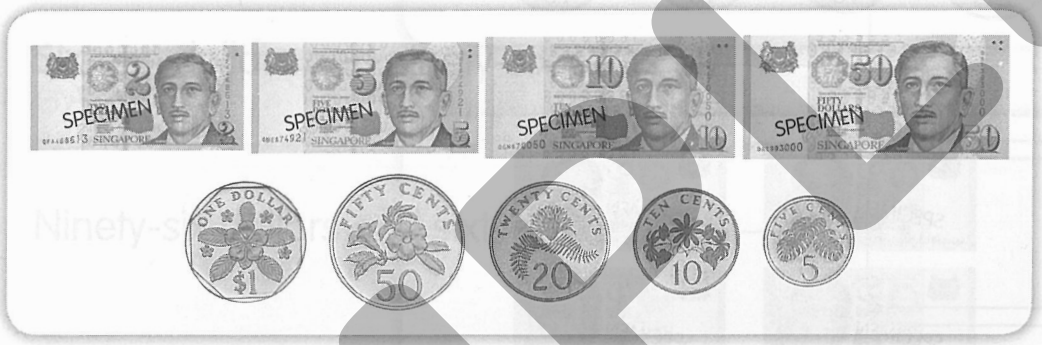
Chapter

8 Money

Counting The Amount Of Money In A Given Set

Thinking Platform

Look at these notes and coins and their values.



Think! Have you ever wondered why there are no \$3, \$4 or \$7 notes?

Why are there coins for 5¢, 10¢, 20¢, 50¢ and \$1 but not for 6¢ or 9¢?

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Notes

Teaching Tips

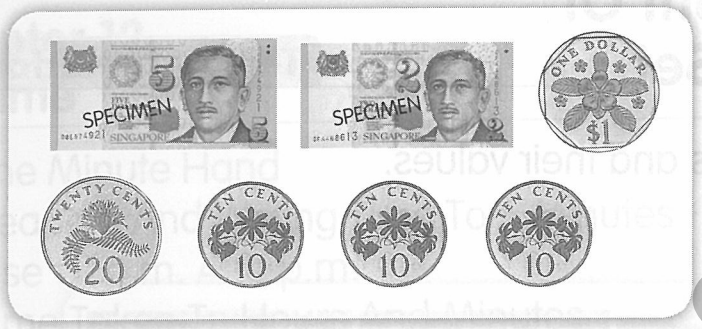
Point out that the notes and coins have their current values because the numbers 1, 2, 5, 10, 20 and 50 easily add up to form greater amounts. For example, we can obtain \$13 with a \$10 note, a \$2 note and a \$1 coin.

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You can combine different notes and coins to show the same amount of money.

Look at these sets of money.

A



B



Both Set A and Set B show eight dollars and fifty cents.
We write this amount as $8.50.

Think! What other combinations of notes and coins can you make to show $8.50?

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Notes

Common Errors
This is the first time the child encounters the decimal notation. We should not approach this section in the same way we teach decimals. Instead, it should be highlighted to the child that the dot is used to separate the dollars and the cents. The correct way of writing money in decimal notation should also be emphasised to the child. For example, two dollars and forty cents should not be written as $2.4, but $2.40.

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1. Write the amount in numbers.

(a) Fifty-five dollars and five cents

(b) Five dollars and five cents

(c) Sixteen dollars and ninety-six cents

(d) Ninety-six dollars and sixty cents

(e) Forty-two dollars and twenty-four cents

(f) Twenty-four dollars and four cents

(g) Nineteen dollars and thirty-five cents

(h) Thirty-nine dollars and fifty cents

(i) Twenty-six dollars and forty cents

(j) Forty-six dollars and twenty cents

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2. Count. Write the amount in words and in numbers.

Example






Eight dollars and twenty cents	*$8.20*

(a)






(b)







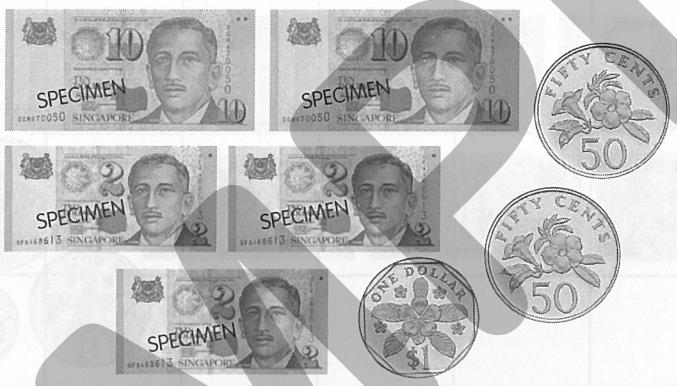
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(c)



(d)



(e)



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(f)



(g)



(h)



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3. Write the number of each type of notes and coins needed to make the given amount.

Amount	$10	$5	$2	$1	50¢	20¢	10¢
$14.00	1		2				
		2	1	2			
(a) $19.00							
(b) $23.00							
(c) $1.90							
(d) $2.30							

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Changing Cents And Dollars

Thinking Platform

We can change dollars to cents.

$1 can be written as $1.00.
$1 = $1.00 = 100¢

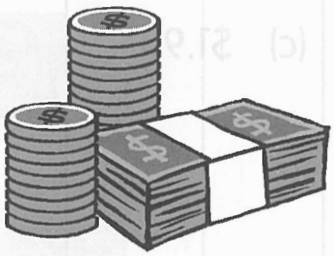
$0.25 = 25¢
$4.20 = 420¢

Think! How do we change dollars to cents?
What happens to the dot?

We can also change cents to dollars.

1¢ = $0.01
250¢ = $2.50
42¢ = $0.42

Think! How do we change cents to dollars?
What do we add to the digits?



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Notes

Area of Difficulty
Explain to the child that when we change dollars to cents, we remove the dot. However, when we change cents to dollars, we add a dot. Lead the child to see that the dot is placed before the second digit from the right. Thus, to change 250¢ to dollars, we put the dot before 5, remove the ¢ and add the $ sign before 2. We add 0 before the dot for amounts less than $1. For example, we write 40¢ as $0.40. We add 0 before and after the dot for amounts less than 10¢. For example, we write 5¢ as $0.05.

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1. Write the amount in dollars.

(a) 30¢ _____ (b) 28¢ _____

(c) 3¢ _____ (d) 103¢ _____

(e) 250¢ _____ (f) 345¢ _____

2. Write the amount in cents.

(a) $8 _____ (b) $12 _____

(c) $9 _____ (d) $5 _____

3. Write the amount in cents.

(a) $8.20 _____ (b) $0.65 _____

(c) $9.80 _____ (d) $4.05 _____

(e) $7.90 _____ (f) $5.30 _____

(g) $7.26 _____ (h) $2.40 _____

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Comparing Amounts Of Money

Thinking Platform

Look at these problems.

Problem 1

Jane has $34.50. Mary has $45.30.
Who has more money?

	Amount	Dollars	Cents
Jane	$34.50	34	50
Mary	$45.30	45	30

Problem 2

Jane has $34.50. Mary has $45.30.
Fiona has $53.40. Diana has $54.30.
Who has the greatest amount of money?

	Amount	Dollars	Cents
Jane	$34.50	34	50
Mary	$45.30	45	30
Fiona	$53.40	53	40
Diana	$54.30	54	30

Think! How do we compare amounts of money?
Do we compare the dollars or the cents?

Notes

Teaching Tips
Point out to the child that when comparing amounts of money, he should begin by comparing the dollars. Also emphasise that dollars must be compared with dollars and cents with cents.

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Complete the table.
Then answer the questions.

1. (a) Debbie has $25.80.
Ashley has $28.50.
Who has more money? _____

	Amount	Dollars	Cents
Debbie	$25.80		
Ashley	$28.50		

(b) Debbie has $25.80. Ashley has $28.50.
Nicole has $85.20. Gladys has $82.50.
Who has the greatest amount of money? _____

	Amount	Dollars	Cents
Debbie			
Ashley			
Nicole			
Gladys			

Arrange the amounts of money in order.
Begin with the smallest amount.

_____, _____, _____, _____

smallest

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Answers

CHAPTER 8: MONEY

Counting The Amount Of Money In A Given Set (pp. 1–7)

Thinking Platform

- See Notes on p. 1.
- Some combinations to make $8.50:

	$5	$2	$1	50¢	20¢	10¢	5¢
1.	1	1	1			5	
2.	1	1	1	1			
3.	1	1	1		2		2
4.	1	1	1		1		6
5.		4				5	
6.		4		1			
7.		4			2		2
8.		4			1		6
9.	1		3	1			
10.	1		3			5	
11.	1		3		2		2
12.	1		3		1		6
13.			8			5	
14.			8	1			
15.			8		2		2
16.			8		1		6

Attaining Mastery

1. (a) $55.05 (b) $5.05
   (c) $16.96 (d) $96.60
   (e) $42.24 (f) $24.04
   (g) $19.35 (h) $39.50
   (i) $26.40 (j) $46.20
2. (a) Twenty-seven dollars and sixty cents, $27.60
   (b) Twenty-six dollars and ninety cents, $26.90
   (c) Fifteen dollars and fifty cents, $15.50
   (d) Twenty-eight dollars, $28.00
   (e) Thirty-six dollars and fifty cents, $36.50
   (f) Nineteen dollars, $19.00
   (g) Eighty dollars and fifty-five cents, $80.55
   (h) Eighty-three dollars and eighty-five cents, $83.85
3. Answers vary.

Amount	$10	$5	$2	$1	50¢	20¢	10¢
(a) $19.00	1	1	1	2			
	1	1	2				
(b) $23.00	2		1	1			
	1	2		3			
(c) $1.90				1	1	1	2
					2	3	3
(d) $2.30			1			1	1
				2			3

Changing Cents And Dollars (pp. 8–9)

Thinking Platform

- See Notes on p. 8.

Attaining Mastery

1. (a) $0.30 (b) $0.28 (c) $0.03
   (d) $1.03 (e) $2.50 (f) $3.45
2. (a) 800¢ (b) 1200¢ (c) 900¢
   (d) 500¢
3. (a) 820¢ (b) 65¢ (c) 980¢
   (d) 405¢ (e) 790¢ (f) 530¢
   (g) 726¢ (h) 240¢

Comparing Amounts Of Money (pp. 10–12)

Thinking Platform

- Mary
- Diana
- See Notes on p. 10.

Attaining Mastery

1. (a) Ashley

	Amount	Dollars	Cents
Debbie	$25.80	25	80
Ashley	$28.50	28	50

(b) Nicole

	Amount	Dollars	Cents
Debbie	$25.80	25	80
Ashley	$28.50	28	50
Nicole	$85.20	85	20
Gladys	$82.50	82	50

Debbie, Ashley, Gladys, Nicole

2. (a) John

	Amount	Dollars	Cents
John	$43.20	43	20
Bobby	$24.30	24	30

(b) John

	Amount	Dollars	Cents
John	$43.20	43	20
Bobby	$24.30	24	30
Daniel	$34.20	34	20
James	$32.40	32	40

John, Daniel, James, Bobby

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