

# TABLE OF CONTENTS

<b>Strategy one</b>	Number sense .....	<b>2</b>
<b>Strategy two</b>	Estimation .....	<b>10</b>
<b>Strategy three</b>	Addition .....	<b>18</b>
<b>Strategies one-three</b>	REVIEW .....	<b>26</b>
<hr/>		
<b>Strategy four</b>	Subtraction .....	<b>30</b>
<b>Strategy five</b>	Multiplication .....	<b>38</b>
<b>Strategy six</b>	Division .....	<b>46</b>
<b>Strategies four-six</b>	REVIEW .....	<b>54</b>
<hr/>		
<b>Strategy seven</b>	Time and money .....	<b>58</b>
<b>Strategy eight</b>	Working with measurements .....	<b>66</b>
<b>Strategy nine</b>	Algebra .....	<b>74</b>
<b>Strategies seven-nine</b>	REVIEW .....	<b>82</b>
<hr/>		
<b>Strategy ten</b>	Shape .....	<b>86</b>
<b>Strategy eleven</b>	Probability and averages .....	<b>94</b>
<b>Strategy twelve</b>	Interpreting data .....	<b>102</b>
<b>Strategies ten-twelve</b>	REVIEW .....	<b>110</b>
<b>Strategies one-twelve</b>	FINAL REVIEW .....	<b>114</b>

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# Strategy **one** NUMBER SENSE

## PART ONE: Learn about number sense

Study the place-value chart that Mirabel's maths teacher made for the students. As you study, think about the place value of each digit.

ten thousands (10,000)	thousands (1000)	hundreds (100)	tens (10)	ones (1)
1	9,	5	6	7

The number 19,567 is written as nineteen thousand, five hundred and sixty-seven.

The number 19,567 has five digits.

The number 19,567 has 1 ten thousand, 9 thousands, 5 hundreds, 6 tens and 7 ones.

The number 19,567 can be shown as  $10,000 + 9000 + 500 + 60 + 7$

and as  $(1 \times 10,000) + (9 \times 1000) + (5 \times 100) + (6 \times 10) + (7 \times 1)$

Look at some other numbers and how they can be written.

The number 782,040 is written as seven hundred and eighty-two thousand and forty.

The number 162 has 1 hundred, 6 tens and 2 ones.

The number 2420 can be shown as  $2000 + 400 + 20 + 0$

and as  $(2 \times 1000) + (4 \times 100) + (2 \times 10) + (0 \times 1)$ .

You use **number sense** when you think about the place value of each digit in a number.

- Each digit in a number has a place value, such as ones, tens, hundreds or thousands.
- The value of a digit depends on its place in a number.
- A number may be written in digits or in words.

Mirabel wrote a number in the place-value chart. Study the chart and think about each digit and its place value. Then do numbers 1 to 4.

ten thousands (10,000)	thousands (1000)	hundreds (100)	tens (10)	ones (1)
6	1,	3	2	5

1. What is the value of the 6 in Mirabel's number?  
Ⓐ 60,000  
Ⓑ 6  
Ⓒ 600  
Ⓓ 6000
2. What is another way to write Mirabel's number?  
Ⓐ three thousand, six hundred and twenty-five  
Ⓑ sixteen thousand, three hundred and twenty-five  
Ⓒ sixty-one thousand, three hundred and twenty-five  
Ⓓ six hundred and twenty-five
3. What is the value of the 3 in Mirabel's number?  
Ⓐ 30  
Ⓑ 300  
Ⓒ 3000  
Ⓓ 30,000
4. Which statement about Mirabel's number is true?  
Ⓐ Each digit has the same value.  
Ⓑ Each digit has no value.  
Ⓒ The first digit to the right of the comma has a value of 30.  
Ⓓ The first digit to the left of the comma has a value of 1000.



Talk about your answers to questions 1–4.  
Explain why you chose the answers you did.

## PART TWO: Check your understanding

**Remember: You use number sense when you think about the place value of each digit in a number.**

- Each digit in a number has a place value, such as ones, tens, hundreds or thousands.
- The value of a digit depends on its place in a number.
- A number may be written in digits or in words.

**Solve this problem. As you work, ask yourself, ‘What does the place of each digit in a number tell me about its value?’.**

5. Mirabel lives in Newtown. The population of Newtown is 84,036. What is the value of the 4 in 84,036?
- Ⓐ 40
  - Ⓑ 400
  - Ⓒ 4000
  - Ⓓ 40,000

**Solve another problem. As you work, ask yourself, ‘How does knowing the place value of each digit in a number help me know how to write the number?’.**

6. Mirabel learned about the town census. It shows that families in Newtown have a total of 21,036 dogs and cats. What is another way to write 21,036?
- Ⓐ two thousand, one hundred and thirty-six
  - Ⓑ twenty-one thousand and thirty-six
  - Ⓒ twenty-one thousand, three hundred and six
  - Ⓓ two thousand and thirty-six

**Look at the answer choices for each question.  
Read why each answer choice is correct or not correct.**

5. Mirabel lives in Newtown. The population of Newtown is 84,036. What is the value of the 4 in 84,036?

A 40

*This answer is not correct because 40 is equal to 4 tens. The 4 is not in the tens place in 84,036.*

B 400

*This answer is not correct because 400 is equal to 4 hundreds. The 4 is not in the hundreds place in 84,036.*

C 4000

*This answer is correct because 4000 is equal to 4 thousands. The 4 is in the thousands place in 84,036.*

D 40,000

*This answer is not correct because 40,000 is equal to 4 ten thousands. The 4 is not in the ten thousands place in 84,036.*

6. Mirabel learned about the town census. It shows that families in Newtown have a total of 21,036 dogs and cats. What is another way to write 21,036?

A two thousand, one hundred and thirty-six

*This answer is not correct because it is another way to write 2136.*

B twenty-one thousand and thirty-six

*This answer is correct because 21,036 is 2 ten thousands, 1 thousand, 0 hundreds, 3 tens and 6 ones.*

C twenty-one thousand, three hundred and six

*This answer is not correct because it is another way to write 21,306.*

D two thousand and thirty six

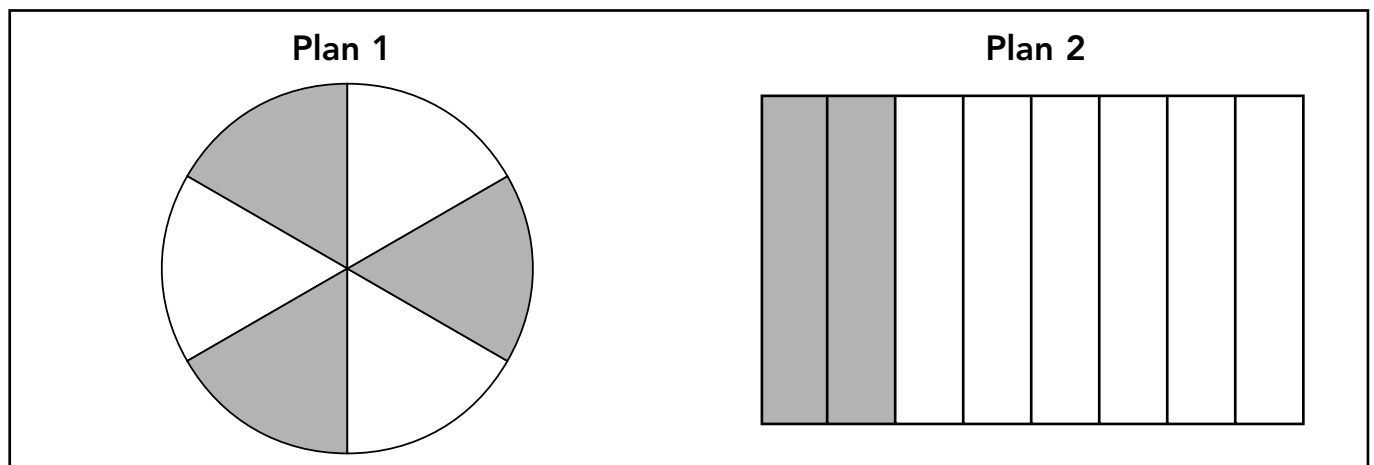
*This answer is not correct because it is another way to write 2036.*

## PART THREE: Learn more about number sense

You use number sense to understand fractions.

- A whole can be divided into equal parts. Each part is a fraction of the whole.
- If a whole figure is divided into 3 equal parts, 1 part is  $\frac{1}{3}$  of the whole. If a whole figure is divided into 8 equal parts, 4 parts are  $\frac{4}{8}$ , or  $\frac{1}{2}$ , of the whole.
- Both  $\frac{1}{3}$  and  $\frac{3}{8}$  are fractions. The top number of a fraction is the numerator. It stands for 1 or more parts of the whole figure. The bottom number is the denominator. It stands for all the parts of the figure that make the whole.

**Mirabel made two different plans for a vegetable garden. Each plan divided the garden into equal parts. Do numbers 7 to 10.**



7. How many parts equal the whole garden in Plan 1?
- Ⓐ 3 parts  
Ⓑ 4 parts  
Ⓒ 6 parts  
Ⓓ 7 parts
8. The shaded parts of the circle in Plan 1 show where Mirabel will plant carrots and peas. What fraction of this garden is for carrots and peas?
- Ⓐ  $\frac{2}{3}$   
Ⓑ  $\frac{3}{5}$   
Ⓒ  $\frac{1}{3}$   
Ⓓ  $\frac{1}{2}$
9. How many parts equal the whole garden in Plan 2?
- Ⓐ 2 parts  
Ⓑ 5 parts  
Ⓒ 7 parts  
Ⓓ 8 parts
10. The shaded parts in Plan 2 show where Mirabel will plant capsicums. What fraction of this garden is for other vegetables?
- Ⓐ  $\frac{3}{4}$   
Ⓑ  $\frac{1}{2}$   
Ⓒ  $\frac{5}{8}$   
Ⓓ  $\frac{1}{4}$