Think MENTALS 3

Second Edition



AC v9 NSW Syllabus

NEW EDITION
Take a look inside!

Think Mentals has been updated to align with the latest Australian Curriculum v9.0 and NSW Syllabus.

As you explore the sample workbook pages, look out for these handy notes, which point out the important information and exciting features of Think Mentals.

Even if you're interested in Think Mentals Digital, you can follow along and find out how the program unfolds as a whole!

Maths Strategies and Practice

Sample Student Workbook Pages

Firefly EDUCATION

Think MENTALS™



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Note: The pink highlighted rows are the pages featured in this sample booklet.

Check out the Year 3 sequence

In Think Mentals, the first part of the year focuses on explicitly teaching friendly mental computation strategies paired with targeted practice of each strategy. The second part of the year is all about revision so students have ample opportunity to practise and apply their mental computation strategy recall.

Visit **thinkmentalsanswers.com.au** for projectable and printable answers.

Welcome

Most of the maths we do every day we do in our heads.

Now, imagine if you could train your brain to solve maths problems quickly and easily.

Well, that's what the Think Mentals series is all about!

The Think Mentals series shows you how to use clever strategies to break tricky maths problems into friendly, manageable chunks.

What are you waiting for? Join the Think Mentals gang and find out how you can make maths easier!



Buster, Ebb and Flo, Daisy, Hal, Jack, Batty and Wendy

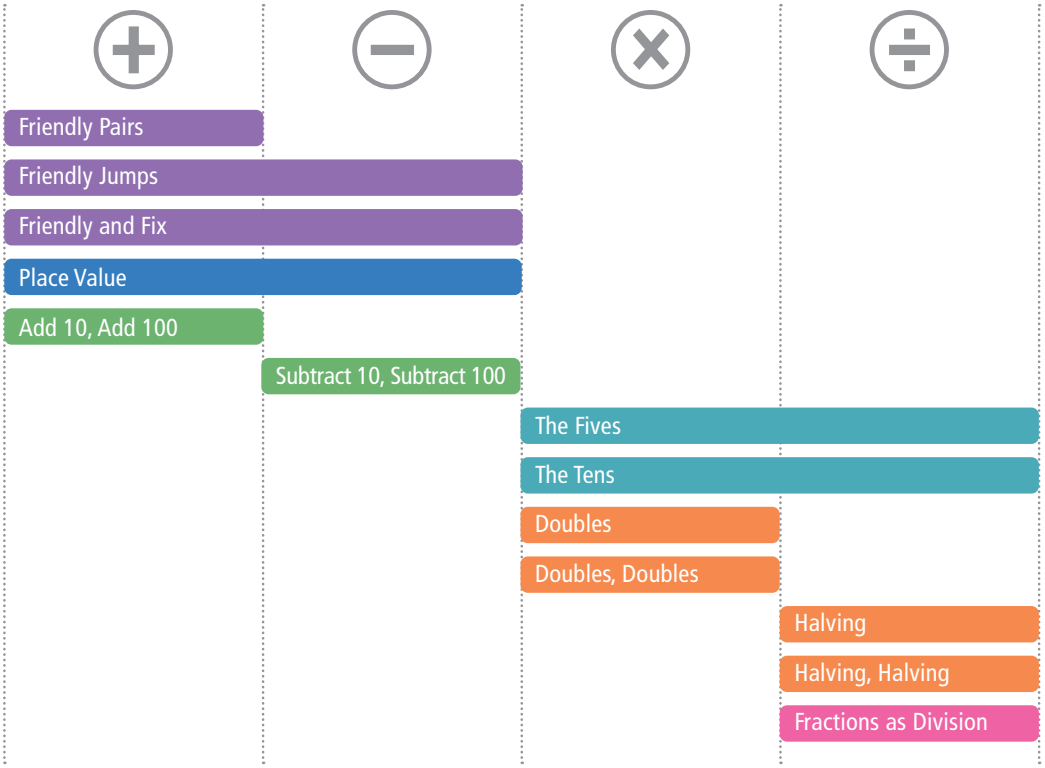
What are Strategies?

Think Mentals strategies are 'how-to' guides for making maths calculations easy.

Each strategy helps you answer a different type of mental maths problem.

Once you are familiar with the strategies, and when to use them, you'll be able to solve most maths problems easily in your head.

There are 18 strategies in this book to learn and practise:





How to Use This Book

Getting started with Think Mentals is easy! Just follow these steps:

1 **Learn the basics** – Unit 1
Read and complete Unit 1 to discover what friendly numbers are, and how you can find or make them yourself. Finding and making friendly numbers will help you solve maths calculations quickly and easily.

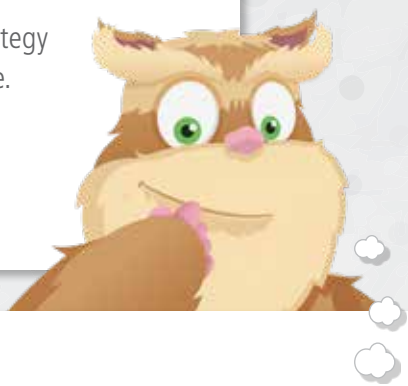
2 **Learn a strategy** – Units 2–19
Day 1 is Strategy Day! Follow the step-by-step examples at the top of the page to understand how to use each new strategy, then practise using the strategy on the 15 questions that follow.

3 **Practise the strategy** – Units 2–19
Days 2–4 include questions to help you practise and revise strategies.

4 **Assess your skills** – Units 2–19
Think you've mastered the strategy? Time to take the Day 5 Assessment! Don't forget to record your results on the Student Assessment Profile in the back of this book.

5 **Revise all the strategies** – Units 20–32
Units 20–32 revise the strategies you've already learnt. Flip back to the strategy examples earlier in the book if you need a reminder of which strategy to use.

6 **Problem solve** – Units 20–32
Challenge your brain with the Think Box activities.



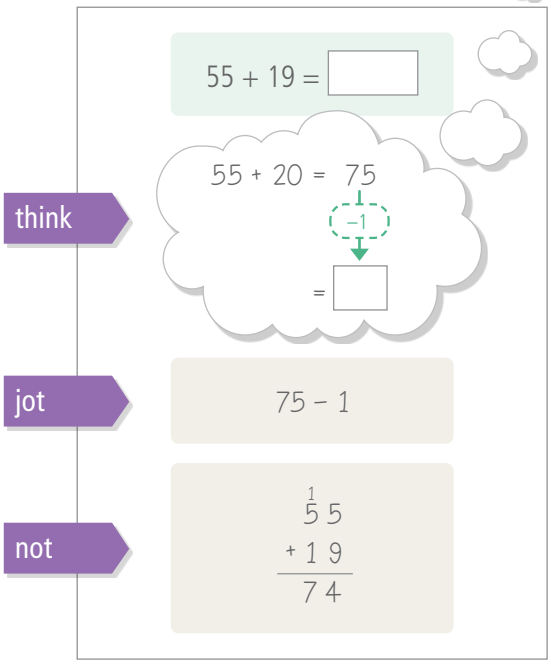
A Note About Jotting

Some mental calculations take many steps to solve.
It can be tricky keeping the answers to all of those steps in your head.

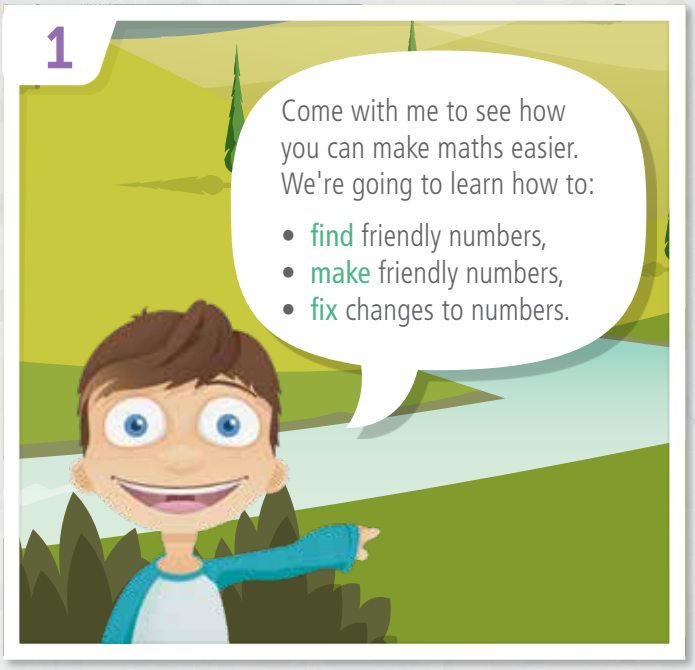
Jotting is a simple way to help you keep track of numbers in multi-step problems.

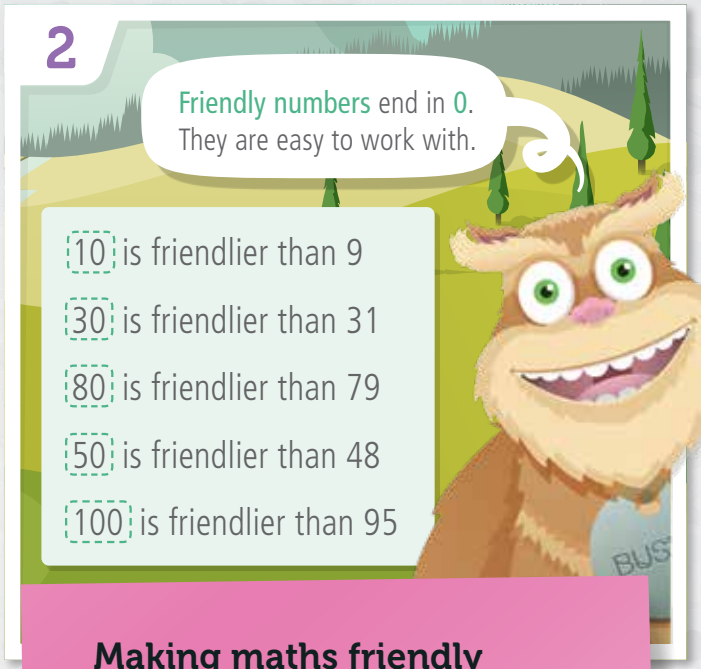
You can jot numbers in the space beside the questions in this book or use note paper.

Remember, jotting is not the same as writing out the problem in full!







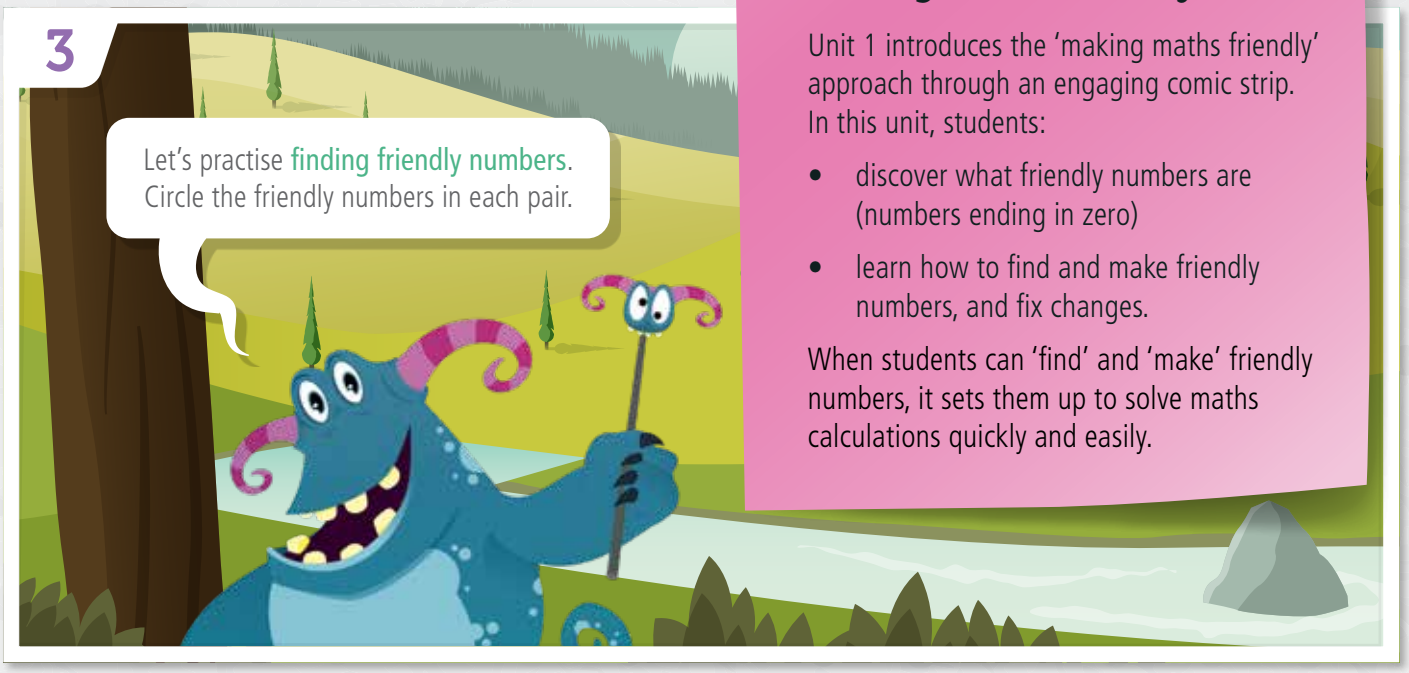


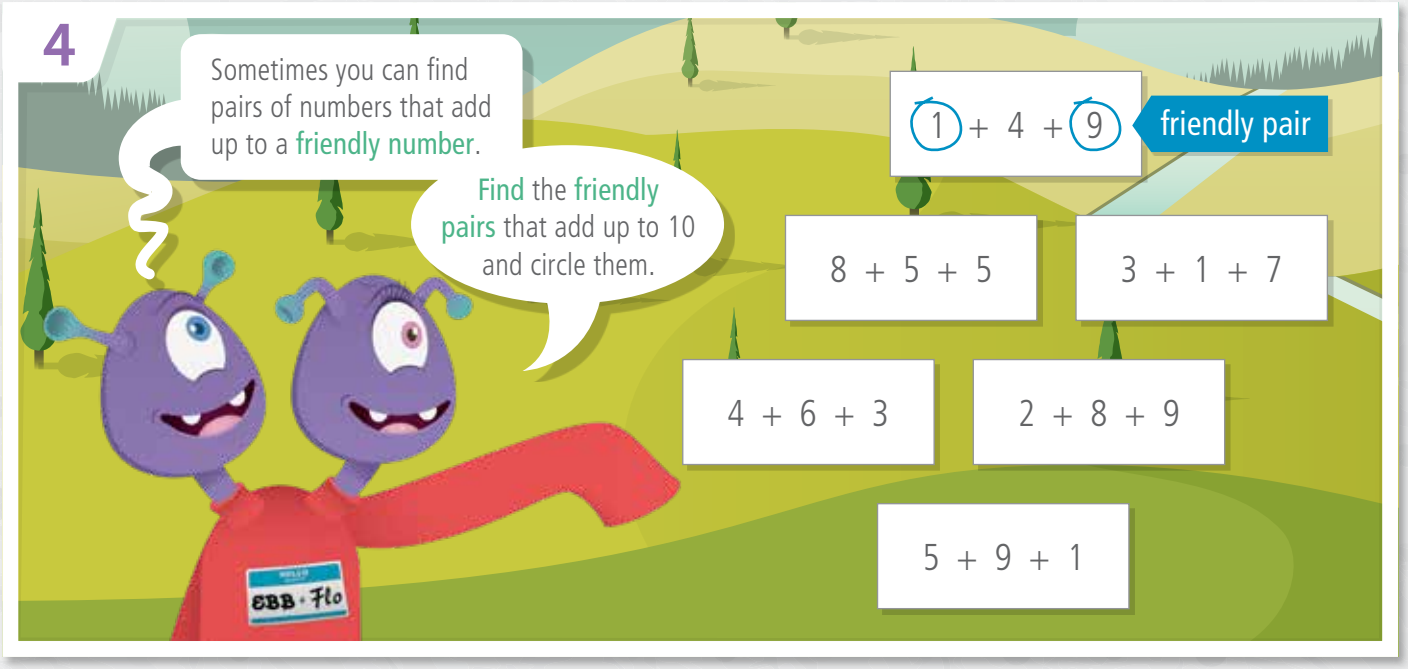
Making maths friendly

Unit 1 introduces the 'making maths friendly' approach through an engaging comic strip. In this unit, students:

- discover what friendly numbers are (numbers ending in zero)
- learn how to find and make friendly numbers, and fix changes.

When students can 'find' and 'make' friendly numbers, it sets them up to solve maths calculations quickly and easily.





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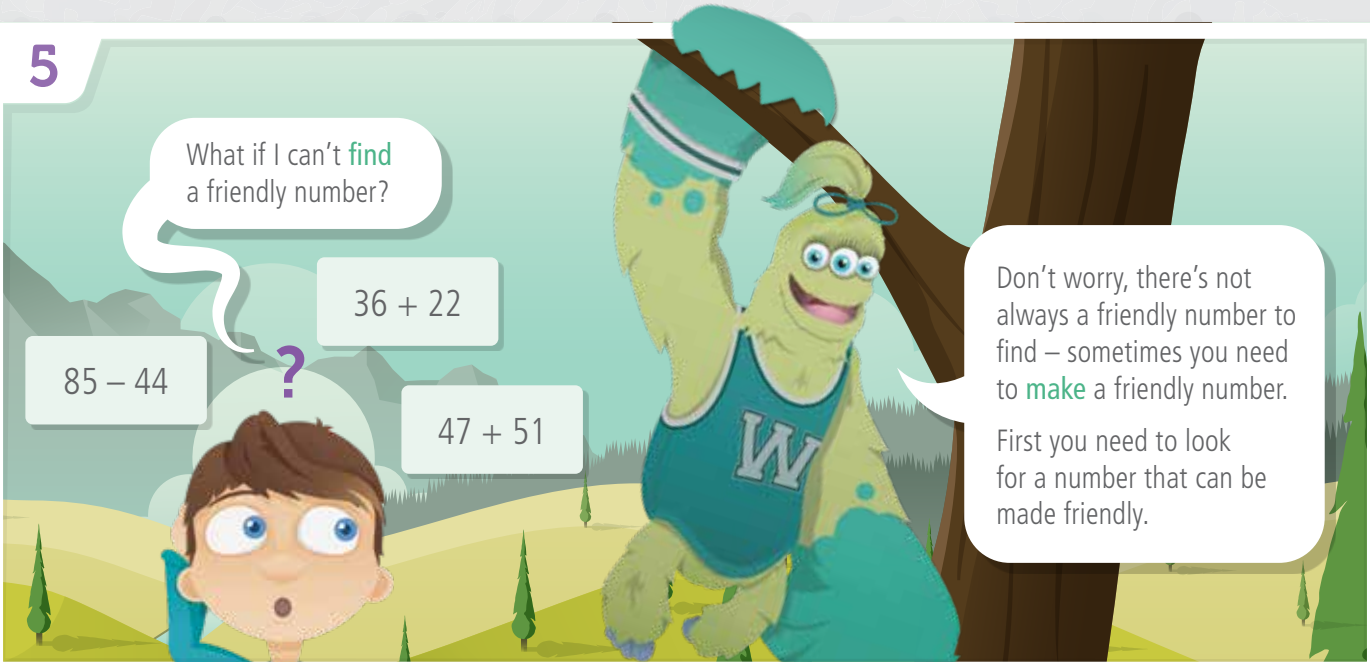

What if I can't find a friendly number?
36 + 22
85 – 44
?
47 + 51
Don't worry, there's not always a friendly number to find – sometimes you need to make a friendly number.
First you need to look for a number that can be made friendly.

6

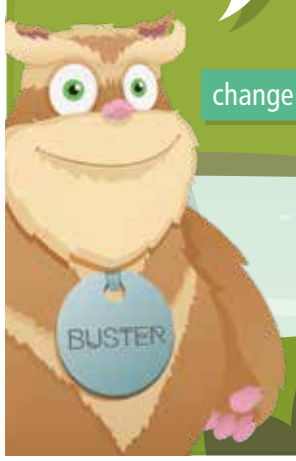

Find the number in each addition that is easy to make friendly, then circle it.
19 + 8
31 + 44
26 + 18
99 + 37

7


Now, change these numbers to make them friendly and show how you did it.
change
friendly
19
+1
20
31
18
99

8

You can fix a change by doing the **opposite** of what you did to make a number friendly. Fix the change in these additions.



change | fix

19 + 8 → +1, −1 → 20 + 7

26 + 18 → ☐, +2 → ☐ + 20

31 + 44 → −1, ☐ → 30 + ☐

99 + 37 → +1, ☐ → 100 + ☐

9



You can also make friendly numbers by breaking larger numbers into place values.

Can you make these numbers friendly?

36 = 30 + 6

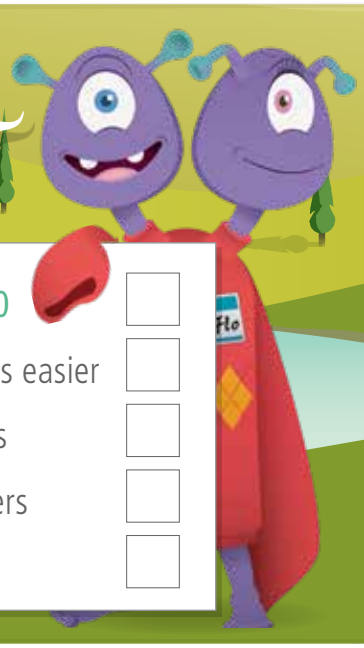
85 =

47 =

539 =

10

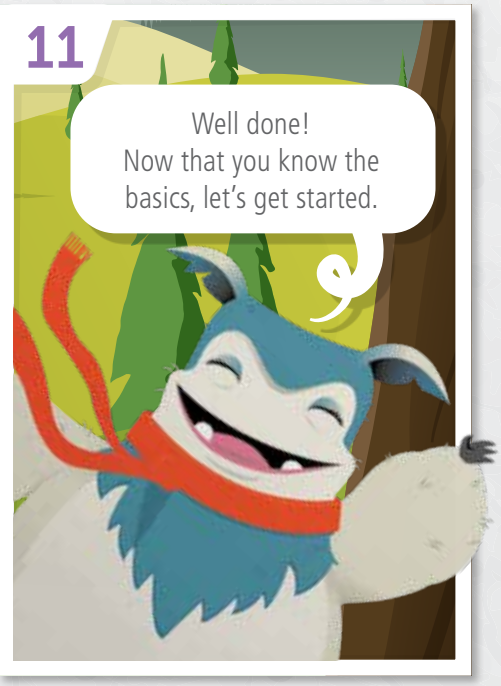
How did you go? Tick the boxes below to show what you know!



- A friendly number ends in a 0 ☐
- Friendly numbers make maths easier ☐
- How to find friendly numbers ☐
- How to make friendly numbers ☐
- How to fix my changes ☐

11

Well done! Now that you know the basics, let's get started.



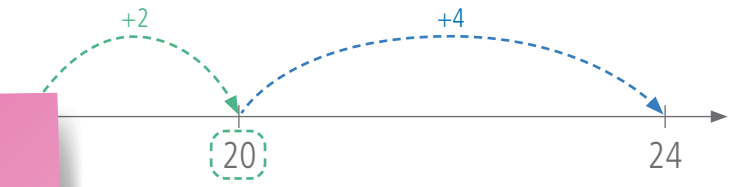
Addition Strategy

Friendly Jumps

Make a number line in your head to 'jump' along.

1 Jump forward to a friendly number.

18 + 6



2 Jump forward the rest.

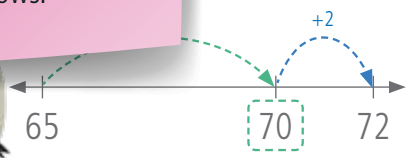
Introduce the week with a strategy

Whether you use Think Mentals Student Workbooks or Think Mentals Digital, all strategies are broken into simple steps, with friendly language that students follow to mentally solve maths problems.

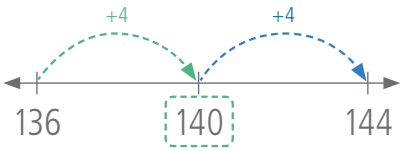
If you use Think Mentals Digital, you and your students will get access to additional strategy resources, including engaging videos and stepped-out slideshows.

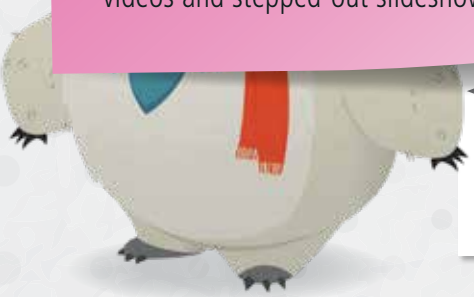
les

5 + 7



136 + 8





Put the strategy into practice

Day 1 is dedicated to practising the week's focus strategy. A couple of worded problems are also provided for an extra challenge.

Day 1

1 6 + 6 ☐

2 8 + 6 ☐

3 18 + 4 ☐

4 18 + 8 ☐

5 16 + 6 ☐

6 16 + 8 ☐

7 25 + 6 ☐

8 35 + 7 ☐

10 28 + 8 ☐

11 46 + 6 ☐

12 185 + 7 ☐

13 146 + 6 ☐

14 258 + 5 ☐

15 Susie collected 26 shells, then found 8 more shells. How many shells altogether? ☐

Practice

Q1–15: /15 | My time:

Day 2

Practice

1 17 + 5 ☐

2 19 + 3 ☐

3 45 + 7 ☐

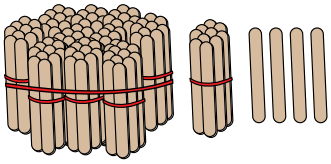
4 167 + 8 ☐

5 508 + 6 ☐

Revision



12 How many popsticks?



13 Complete these addition facts.

3 + 3 = ☐ 2 + 3 = ☐

4 + 3 = ☐

14 Skip count forwards by 10s.

90 100 110 ☐

15 Which is taller?

⬭ car door

⬭ garage door

Q1–10: /10 | Q11–15: /5 | My time:

Day 3

Practice

1 17 + 7 ☐

2 19 + 7 ☐

3 68 + 5 ☐

4 425 + 7 ☐

5 388 + 6 ☐

Revision

6 23 – 8 ☐

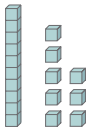
7 34 – 7 ☐

8 85 – 6 ☐

9 56 – 8 ☐

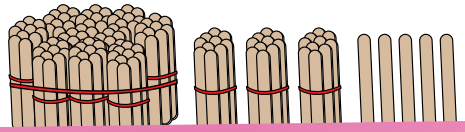
10 25 students are on the oval.
8 students leave.
How many remain on the oval? ☐

11 Complete this place value chart.



tens	Ones

12 How many popsticks?



⬭ garbage truck

Q1–10: /10 | Q11–15: /5 | My time:

Plenty of practice

Days 2–4 are all about practice and fluency. A typical day consists of:

- Practice questions – best solved using the strategy taught that week.
- Revision questions – give students the opportunity to apply previously taught strategies.
- General maths content questions – contain number, word and illustration-based problems covering a range of maths concepts.

Curriculum-aligned content

All strategies and general maths content questions now align with both the Australian Curriculum v9.0 and NSW Syllabus.

This means all students can practise the strategies and their fluency of previously learned maths concepts with confidence!

Day 4

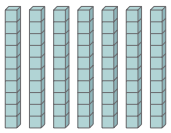
Practice

1 19 + 5 ☐
2 87 + 6 ☐
3 365 + 7 ☐
4 896 + 5 ☐
5 298 + 7 ☐

6 16 – 9 ☐
7 53 – 5 ☐
8 87 – 8 ☐
9 42 – 6 ☐

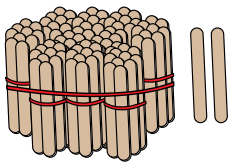
10 Thea has 36 pencils
How many need sha

11 Complete this place



tens | ☐

12 How many popsticks



☐

13 Complete these addition facts.

7 + 7 = ☐ 9 + 7 = ☐
8 + 7 = ☐

14 Skip count forwards by 10s.

110 120 130 ☐

15 Which is longer?
- ⬭ soccer field
- ⬭ your arm span

Q1–10: /10 | Q11–15: /5 | My time:

Day 5

Assessment

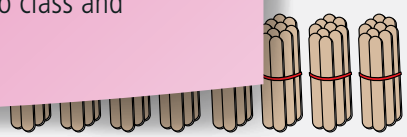
1 18 + 8 ☐
2 55 + 7 ☐
3 27 + 6 ☐
4 135 + 8 ☐
5 249 + 5 ☐
6 6 + 48 ☐
7 8 + 25 ☐

5 goals last year.
cored only 8 goals.
total? ☐

e value chart.

Ones | ☐

ks?



☐

13 Complete these addition facts.

5 + 5 = ☐ 6 + 5 = ☐
9 + 5 = ☐

14 Skip count forwards by 10s.

120 130 140 ☐

15 Which is taller?
- ⬭ kitten
- ⬭ giraffe

Q1–10: /10 | Q11–15: /5 | My time:

Finish the week with assessment

Day 5 tests students' proficiency in the week's work. The assessment questions are broken into two sets:

- The first half assesses the application of strategies.
- The second half assesses general maths concepts and operations.

If you use Think Mentals Student Workbooks, students record their results in the Student Assessment Profile.

If you use Think Mentals Digital, student results will be automatically collated into class and student assessment portfolios.

Subtraction Strategy

Friendly and Fix

Make the second number friendly, subtract, then fix the change.

1. **Make a friendly number.**
2. **Calculate.**
3. **Fix the change.**
   Do the **same** as what you did to make the number friendly.

$$44 - 9$$
$$\downarrow +1$$
$$44 - 10 = 34$$
$$\downarrow +1$$
$$= 35$$



Other Examples

$$67 - 19$$
$$\downarrow +1$$
$$67 - 20 = 47$$
$$\downarrow +1$$
$$= 48$$

$$75 - 29$$
$$\downarrow +1$$
$$75 - 30 = 45$$
$$\downarrow +1$$
$$= 46$$

More strategies, same unit structure

Every strategy unit follows the same consistent structure across the five days of work.

- Day 1: Introduce the strategy
- Days 2–4: Practice, revision and general fluency
- Day 5: Assessment

Day 1

1	22 – 9	9	74 – 29
2	31 – 9	10	96 – 29
3	64 – 9	11	68 – 29
4	73 – 9	12	88 – 39
5	58 – 9	13	115 – 9
6	37 – 19	14	363 – 19
7	46 – 19		
8	65 – 19		

15 Faiza baked 36 biscuits. 9 were eaten. How many are left?

Practice

Q1–15: /15 | My time:

Day 2

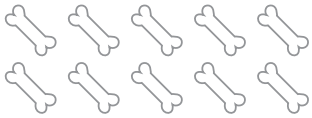
Practice

1 33 – 9 ☐
2 55 – 9 ☐
3 24 – 9 ☐
4 86 – 9 ☐
5 47 – 9 ☐

Revision

6 183 + 10 ☐
7 525 + 10 ☐
8 619 + 10 ☐
9 400 + 100 ☐
10 Zac is 178 cm tall. Luke is 10 cm taller. How tall is Luke? ☐ cm

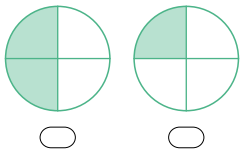
11 Circle groups of 2.



How many groups of 2 are there?

☐ groups of 2 = 10

12 Which image has one quarter of the circle coloured?



13 50 + 20 = ☐ 30 + 40 = ☐
20 + 60 = ☐

Keeping track of the week's progress

With the Workbooks, students can record their results and time at the bottom of each day's work. Q1–10 results are for application of Think Mentals strategies. Q11–20 results are for general maths content.

With Think Mentals Digital, the week's progress is automatically collated in each student's practice portfolio.

Q1–10: /10	Q11–15: /5	My time:

Day 3

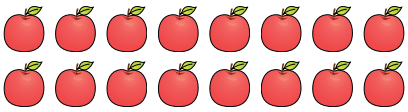
Practice

1 51 – 9 ☐
2 76 – 9 ☐
3 34 – 19 ☐
4 53 – 19 ☐
5 168 – 19 ☐

Revision

6 750 + 100 ☐
7 325 + 100 ☐
8 659 + 100 ☐
9 408 + 100 ☐
10 Chloe has $375. Mia has $100 more. How much does Mia have? $ ☐

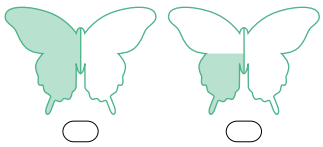
11 Circle groups of 4.



How many groups of 4 are there?

☐ groups of 4 = 16

12 Which image has one half of the butterfly coloured?



13 20 + 20 = ☐ 30 + 30 = ☐
40 + 40 = ☐

ch fraction is shown?
ne quarter of 8
ne eighth of 4
ne eighth of 8



ose the months that have 31 days.
May ⬭ July
une ⬭ August

Q1–10: /10	Q11–15: /5	My time:

Day 4

1 172 – 9 ☐

2 56 – 29 ☐

3 77 – 29 ☐

4 85 – 29 ☐

5 94 – 39 ☐

6 3120 + 10 ☐

7 3120 +100 ☐

8 8504 + 10 ☐

9 8504 + 100 ☐

10 Kay's grandfather was born in 1861. What year did he turn 100? ☐

Revision

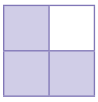
11 Circle groups of 6.



☐ groups of 6 = ☐

12 What fraction of this shape is shaded?

three ☐

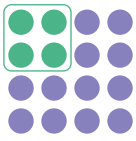


13 300 + 500 = ☐

600 + 300 = ☐

700 + 700 = ☐

14 Which fraction is shown?



- ⬭ one quarter of 4
- ⬭ one eighth of 16
- ⬭ one quarter of 16

15 Which month has a total of 28 or 29 days? ☐

Q1–10: /10 | Q11–15: /5 | My time:

Day 5

1 62 – 9 ☐

6 57 – 29 ☐

7 78 – 29 ☐

8 87 – 39 ☐

9 196 – 19 ☐

10 In a leap year, there is a total of 91 days in January, February and March. February has 29 days. How many days in January and March? ☐

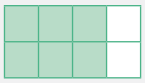
11 Circle groups of 5.



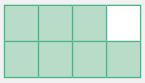
How many groups of 5 are there?

☐ groups of 5 = 20

12 Which image has seven eighths of the rectangle coloured?



⬭



⬭

13 30 + 20 = ☐ 80 + 80 = ☐

300 + 300 = ☐

14 Which fraction is shown?



- ⬭ one quarter of 12
- ⬭ one half of 12
- ⬭ one half of 3

15 Choose the months that have 30 days.

- ⬭ September
- ⬭ November
- ⬭ October
- ⬭ December

Q1–10: /10 | Q11–15: /5 | My time:

Assessment

Questions increase in difficulty

The same targeted general maths concepts are repeated throughout the week, with Day 4 questions the most complex. This increase in difficulty has been carefully scaffolded to optimise students' application and fluency in mental computation.

Day 1

Revision

1 35 + 9 ☐

2 147 + 9 ☐

3 76 + 19 ☐

4 318 + 19 ☐

5 54 + 29 ☐

6 215 + 29 ☐

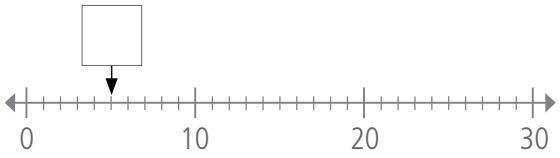
7 27 + 39 ☐

8 426 + 39 ☐

9 735 + 49 ☐

10 Keed has 37 green marbles and 19 blue marbles. How many is that? ☐

11 Write the missing number.



12 Write the number that has 5 hundreds, 2 tens and 6 ones. ☐

13 4 + 6 = ☐ 2 + 8 = ☐

7 + 3 = ☐

14 Choose the smaller number.

○ 55 ○ 57

15 Choose the words that match the number 507.

○ fifty-seven

○ five hundred and seven

○ five hundred and seventy

Q1–10: /10 | Q11–15: /5 | My time:

Day 2

Revision

1 53 – 9 ☐

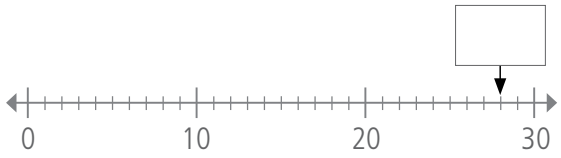
Time to revise all strategies

Once all the strategies for the year have been introduced and explicitly taught, the structure from Unit 20 onwards changes.

In the revision units, Days 1–4 are divided into two sections. The first half of each day only focuses on revision of strategies. The second half continues to target general maths content. Day 5 also continues to be the weekly assessment.

10 Cody's dad is 37 and his mum is 9 years younger. How old is Cody's mum? ☐

11 Write the missing number.



12 Write the number that has 2 hundreds and 8 tens. ☐

13 4 + 8 = ☐ 8 + 8 = ☐

7 + 6 = ☐

14 Choose the smaller number.

○ 84 ○ 80

15 Choose the words that match the number 306.

○ thirty-six

○ three hundred and sixty

○ three hundred and six

Q1–10: /10 | Q11–15: /5 | My time:

Day 3

Revision

1 8 x 2 ☐

2 21 x 2 ☐

3 64 x 2 ☐

4 83 x 2 ☐

5 31 x 2 ☐

6 50 x 2 ☐

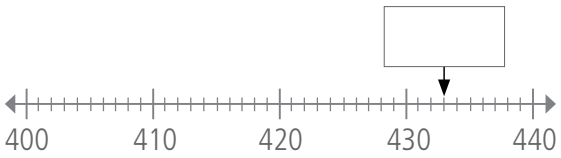
7 70 x 2 ☐

8 40 x 2 ☐

9 80 x 2 ☐

10 How many minutes are in 2 hours? ☐

11 Write the missing number.



12 Write the number that has 9 hundreds and 9 ones. ☐

13 6 + 6 = ☐ 9 + 9 = ☐

5 + 5 = ☐

14 Choose the smaller number.

◯ 126 ◯ 162

15 Choose the words that match the number 790.

◯ seventy-nine

◯ seven hundred and nine

◯ seven hundred and ninety

Q1–10: /10 | Q11–15: /5 | My time:

Day 4

Revision

1 12 ÷ 2 ☐

2 10 ÷ 2 ☐

3 16 ÷ 2 ☐

4 20 ÷ 2 ☐

5 8 ÷ 2 ☐

6 14 ÷ 2 ☐

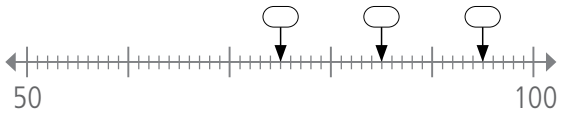
7 6 ÷ 2 ☐

8 4 ÷ 2 ☐

9 2 ÷ 2 ☐

10 18 marbles are shared equally by 2 friends. How many each? ☐

11 Where is 85 on this number line?



12 Write the number that has 2 ones, 7 hundreds and 1 ten. ☐

13 19 + 5 = ☐ 17 + 8 = ☐

16 + 7 = ☐

14 Choose the smaller number.

Looking for answers?

If you're using the Workbooks and want to save time with marking, sign up for free projectable answers and strategies at thinkmentalsanswers.com.au.

If you use Think Mentals Digital, you'll save even more time as all activities are automatically marked!

Q1–10: /10 | Q11–15: /5 | My time:

Day 5

1 46 + 19 ☐

2 223 + 39 ☐

3 85 – 29 ☐

4 194 – 49 ☐

5 92 x 2 ☐

6 64 x 2 ☐

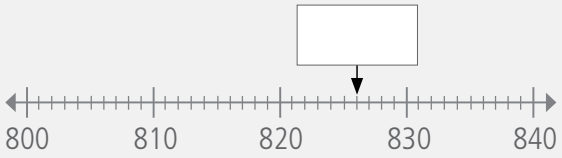
7 12 ÷ 2 ☐

8 8 ÷ 2 ☐

9 16 ÷ 2 ☐

10 Jasmine bought 2 games for $43 each. How much did she spend? $☐

11 Write the missing number.



12 Write the number that has 4 tens, 3 ones and 6 hundreds. ☐

13 8 + 4 = ☐ 6 + 7 = ☐

5 + 9 = ☐

14 Choose the smaller number.

⬭ 111 ⬭ 101

15 Choose the words that match the number 804.

⬭ eighty-four

⬭ eight hundred and four

⬭ eight hundred and forty

Assessment

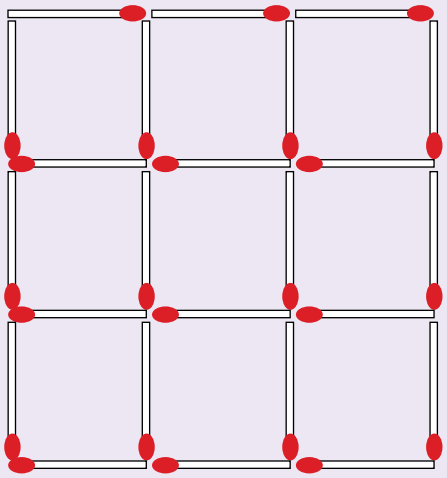
Q1–10:	/10	Q11–15:	/5	My time:

Think Box

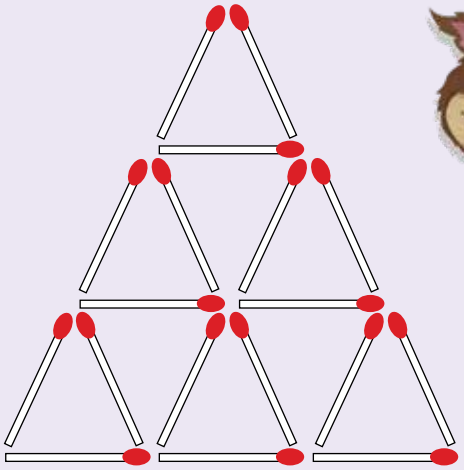
Matchstick Puzzles

How many squares are in this shape?

Look out for squares made from other squares.



☐ squares



☐ triangles



The Think Box

After all the strategies have been covered, students can tackle a weekly Think Box from Unit 20 onwards. These engaging problem-solving activities are perfect for fast finishers, or make an ideal homework task.

Student Assessment Profile

Student Name: _____

		Q1–10	Q11–15
Addition Strategies			
Unit 2	Friendly Jumps	/10	/5
Unit 3	Friendly Pairs	/10	/5
Unit 4	Add 10, Add 100	/10	/5
Unit 5	Friendly and Fix	/10	/5
Unit 6	Place Value	/10	/5
Subtraction Strategies			
Unit 7	Friendly Jumps	/10	/5
Unit 8	Subtract 10, Subtract 100	/10	/5
Unit 9	Friendly and Fix	/10	/5
Unit 10	Place Value	/10	/5
Multiplication Strategies			
Unit 11	Doubles	/10	/5
Unit 12	Double, Doubles	/10	/5
Unit 13	The Fives	/10	/5
Unit 14	The Tens	/10	/5
Division Strategies			
Unit 15	Halving	/10	/5
Unit 16	Halving, Halving	/10	/5
Unit 17	The Fives	/10	/5
Unit 18	The Tens	/10	/5
Unit 19	Fractions as Division	/10	/5
Unit 24		/10	/5
Unit 25		/10	/5
Unit 26		/10	/5
Unit 27		/10	/5
Unit 28		/10	/5
Unit 29		/10	/5
Unit 30		/10	/5
Unit 31		/10	/5
Unit 32		/10	/5

Student Assessment Profile

Day 5 results are broken into two columns:

- Q1–10 cover the application of Think Mentals strategies
- Q11–20 focus on general maths content.

Separate results allow you to clearly see where a student is struggling, and determine if any strategies need to be revisited.

Think Mentals Digital records the same information automatically in the class and student assessment portfolios.

Record your Day 5 results here!



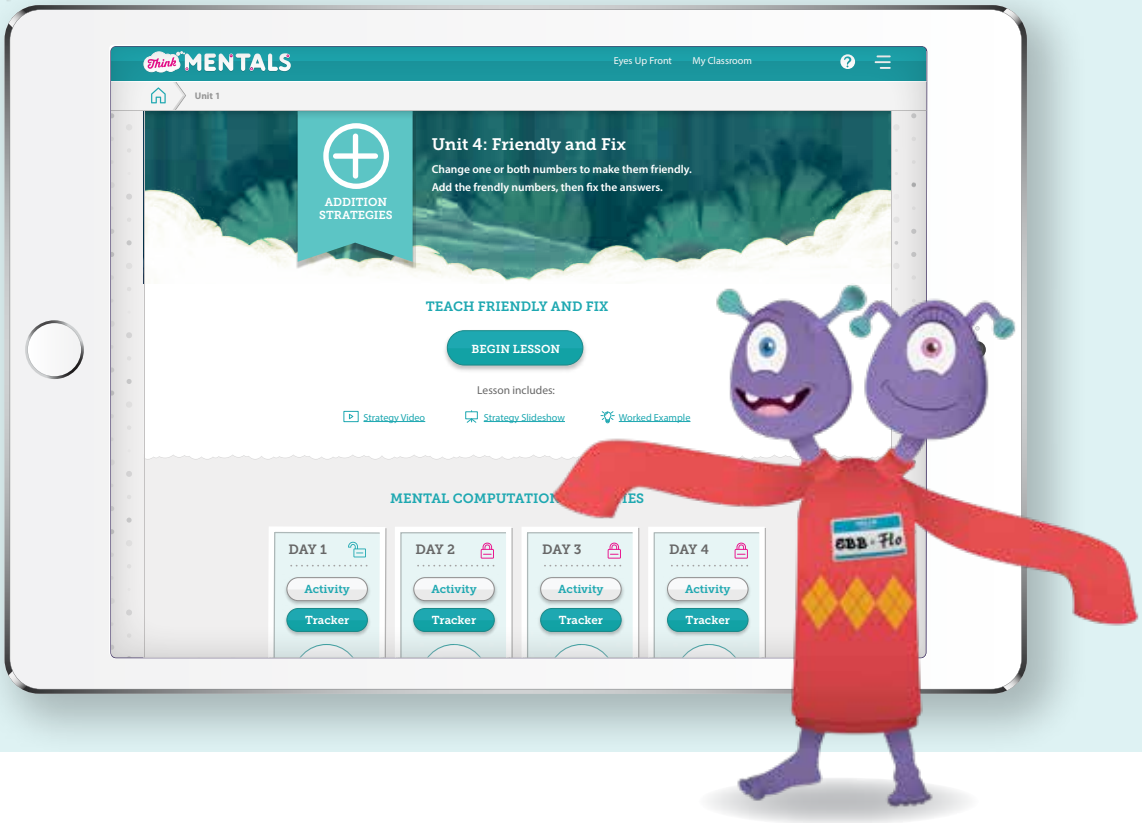
Available in two great options

Option 1: Workbooks



AC v9 NSW Syllabus

Option 2: Digital



Think Mentals Sample Student Workbook Pages

Compare your options

Think MENTALS Student Workbooks

Years 1–6



or

Think MENTALS Digital

Years 2–6



	WORKBOOKS	DIGITAL
Modelled computation strategies with targeted practice	✓	✓
A fun introductory unit to show students how to find, make and fix 'friendly' numbers	✓	✓
30+ weeks of carefully structured and differentiated mental computation questions	✓	✓
Student Assessment Profile	✓	
Teacher and student access to all available year levels		✓
Projectable teaching videos and slideshows		✓
Online student activities with automatic marking		✓
Real-time activity tracker		✓
Whole-class portfolio for summative results		✓
Individual student portfolios for formative and summative results		✓
Classroom management tools		✓

Take the next step

Visit www.fireflyeducation.com.au/thinkmentals to:

Check out the Student Workbooks for other year levels

Download the sample pages for your year level. Or request inspection copies to see the entire contents of all Student Workbooks (Years 1–6).

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Discover the extra features that the digital format has to offer – strategy videos, slideshows, online activities, automatic marking and data collation.
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