Think

MENTALS

Student Workbook

3

Maths Strategies and Practice

Chris Linthorne | Sandra Williams | Peter Williams

firefly education

1

Come with me to see how you can make maths easier. We're going to learn how to:

- **find** friendly numbers,
- **make** friendly numbers,
- **fix** changes to numbers.

2

Friendly numbers end in **0**. They are easy to work with.

10 is friendlier than 9

30 is friendlier than 31

80 is friendlier than 79

50 is friendlier than 48

100 is friendlier than 95

3

Let's practise **finding friendly numbers**. Circle the friendly numbers in each pair.

9 or (10)

49 or 50

20 or 22

67 or 70

4

Sometimes you can find pairs of numbers that add up to a **friendly number**.

Find the **friendly pairs** that add up to 10 and circle them.

(1) + 4 + (9)   friendly pair

8 + 5 + 5

3 + 1 + 7

4 + 6 + 3

2 + 8 + 9

5 + 9 + 1

5

What if I can't **find** a friendly number?

85 – 44   **?**

36 + 22

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.

	19	31	18	99
change	+1			
friendly	20			

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.

BUSTER

19 + 8

change ▸ +1 | −1 ◂ fix

20 + 7

31 + 44

−1 | [ ]

30 + [ ]

26 + 18

[ ] | +2

[ ] + 20

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!

Flo

- 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

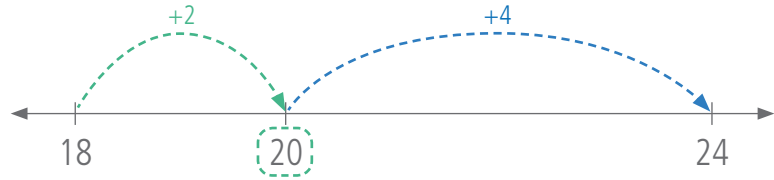Well done! Now that you know the basics, let's get started.

Addition Strategy
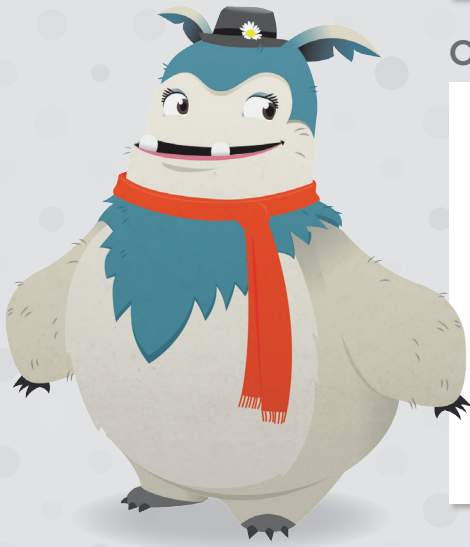
Friendly Jumps

Make a number line in your head to 'jump' along.
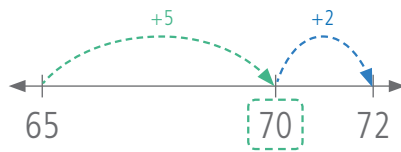
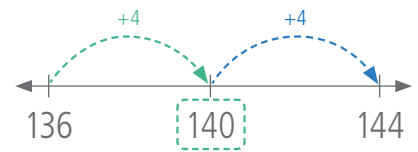**1** Jump forward to a friendly number.

$$18 + 6$$

+2   +4

18   20   24

2 Jump forward the rest.

Other Examples

$$65 + 7$$

+5   +2

65   70   72

$$136 + 8$$

+4   +4

136   140   144

Day 1

1	6 + 6		**9**	27 + 5	
2	8 + 6		**10**	28 + 8	
3	18 + 4		**11**	46 + 6	
4	18 + 8		**12**	185 + 7	
5	16 + 6		**13**	146 + 6	
6	16 + 8		**14**	258 + 5	
7	25 + 6		**15**	Susie bought a game for $26 and a book for $8. How much did she spend?	
8	35 + 7				

Practice

Q1–15:   /15   My time:

Day 2

1	17 + 5	
2	19 + 3	
3	45 + 7	
4	167 + 8	
5	508 + 6	

Practice

6	12 – 4	
7	13 – 6	
8	14 – 8	
9	15 – 7	

10 Jake had 12 jelly beans. He ate 5. How many are left?

Revision

11 Complete this place value chart.

tens	Ones
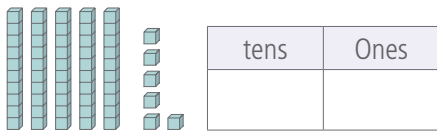
12 How many popsticks?
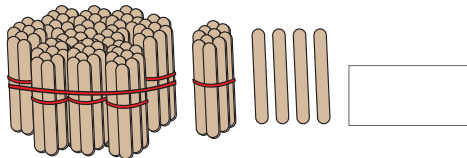
13 Complete these addition facts.

3 + 3 = ☐   2 + 3 = ☐

4 + 3 = ☐

14 How much money is in this bag?

15 How tall is a door?

◯ 1 metre   ◯ 2 metres   ◯ 4 metres   ◯ 100 metres

Q1–10: /10 | Q11–15: /5 | My time:

Day 3

1	17 + 7	
2	19 + 7	
3	68 + 5	
4	425 + 7	
5	388 + 6	

Practice

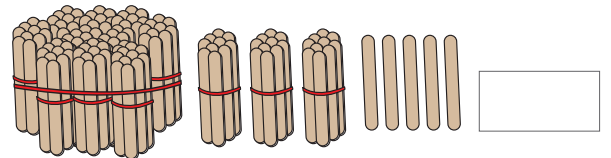|		
6	23 – 8	
7	34 – 7	
8	85 – 6	
9	56 – 8	

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

Revision

11 Complete this place value chart.

tens	Ones

12 How many popsticks?

13 Complete these addition facts.

4 + 4 = ☐   6 + 4 = ☐

8 + 4 = ☐

14 How much money is in this bag?

15 How long is a car?

◯ 1 metre   ◯ 2 metres   ◯ 4 metres   ◯ 100 metres

Q1–10: /10 | Q11–15: /5 | My time:

Day 4

1 19 + 5 _____

2 87 + 6 _____

3 365 + 7 _____

4 896 + 5 _____

5 298 + 7 _____

Practice

6 16 − 9 _____

7 53 − 5 _____

8 87 − 8 _____

9 42 − 6 _____

10 Kirsty has 36 pencils. 8 are sharp. How many need sharpening? _____

Revision

11 Complete this place value chart.

tens	Ones
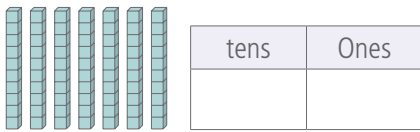
12 How many popsticks? _____
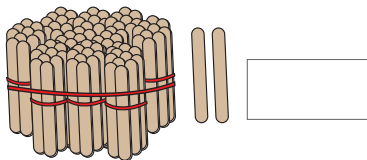
13 Complete these addition facts.

7 + 7 = _____   9 + 7 = _____

8 + 7 = _____

14 How much money is in this bag? _____

15 How long is a soccer field?

◯ 1 metre   ◯ 2 metres   ◯ 4 metres   ◯ 100 metres

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 _____

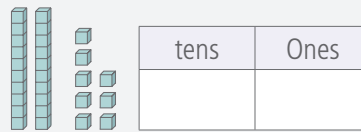**6** 6 + 48 _____

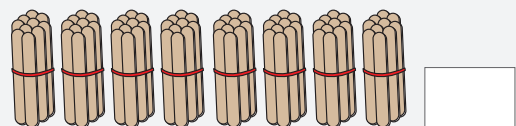**7** 8 + 25 _____

8 428 + 7 _____

9 877 + 7 _____

10 Gemma scored 126 goals last year. This year she has scored only 8 goals. How many goals in total? _____

11 Complete this place value chart.

tens	Ones

12 How many popsticks? _____

13 Complete these addition facts.

5 + 5 = _____   6 + 5 = _____

9 + 5 = _____

14 How much money is in this bag? _____

15 How long is your armspan?

◯ 1 metre   ◯ 2 metres   ◯ 4 metres   ◯ 100 metres

Q1–10:   /10   Q11–15:   /5   My time:

+ Addition Strategy

Friendly Pairs

When there are many numbers to add, look for pairs that add to ten. Add them first.

1 **Find friendly pairs.**

$$9 + 5 + 5$$

10

2 **Calculate.** $= 9 + 10$

$$= 19$$

Other Examples

10

$7 + 1 + 3 + 9$

10

$= 10 + 10$

$= 20$

10

$2 + 4 + 6 + 5 + 8$

10

$= 10 + 10 + 5$

$= 25$

Day 1

1	$8 + 6 + 4$	**9**	$3 + 9 + 1 + 7$
2	$5 + 7 + 3$	**10**	$2 + 5 + 5 + 8$
3	$6 + 8 + 2$	**11**	$7 + 8 + 3 + 2$
4	$4 + 9 + 1$	**12**	$1 + 2 + 9 + 8$
5	$8 + 5 + 5$	**13**	$5 + 6 + 4 + 3 + 5$
6	$7 + 4 + 6$	**14**	$9 + 5 + 2 + 8 + 1$
7	$9 + 3 + 7$	**15**	Blair caught 6 fish on Friday, 8 fish on Saturday and 4 fish on Sunday. How many fish did he catch?
8	$8 + 6 + 2 + 4$		

Practice

Q1–15: /15

My time:

Day 2

1   5 + 8 + 2

2   6 + 4 + 9

3   4 + 8 + 6 + 2

4   7 + 5 + 5 + 3

5   2 + 7 + 8 + 3 + 6

6   46 − 10

7   89 − 10

8   55 − 10

9   62 − 10

10 Amelia had $23. She spent $10 on a toy. How much is left?

11 Count on by 2s.

0   2   4

12
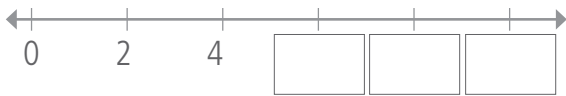
Hundreds	tens	Ones

13 5 − 2 =   9 − 2 =

4 − 2 =

14 How much money is this?

15 What time is this?

_____ past _____

Q1–10:   /10   Q11–15:   /5   My time:

Day 3

1   7 + 2 + 3

2   5 + 7 + 5

3   3 + 6 + 4 + 7

4   8 + 9 + 1 + 2

5   4 + 5 + 9 + 5 + 6

6   95 − 10

7   49 − 10

8   26 − 10

9   31 − 10

10 Oscar has 22 students in his class. 10 are girls. How many boys?

11 Count on by 2s, starting from 10.

10

12

Hundreds	tens	Ones

13 8 − 3 =   3 − 3 =

7 − 3 =

14 How much money is this?

15 What time is this?

____ : ____

Q1–10:   /10   Q11–15:   /5   My time:

Day 4

1 9 + 6 + 1

2 5 + 5 + 8

3 1 + 9 + 5 + 5

4 7 + 8 + 1 + 2 + 9 + 3

5 6 + 5 + 4 + 9 + 5 + 8 + 2

6 29 − 10

7 52 − 10

8 45 − 10

9 84 − 10

10 36 vehicles parked. 10 are vans, the rest are cars. How many cars?

11 Count on by 2s, starting from 1.

1

12

Hundreds	tens	Ones

13 10 − 5 = ☐   10 − 2 = ☐

10 − 6 = ☐

14 How much money is this?

15 What time is this?

☐ : ☐

Day 5

1 6 + 5 + 5

2 8 + 5 + 2 + 5

3 1 + 2 + 8 + 9

4 4 + 7 + 6 + 3

5 3 + 5 + 5 + 7

6 1 + 6 + 9

7 5 + 6 + 5 + 4 + 8

8 7 + 9 + 1 + 7 + 3

9 3 + 6 + 5 + 4 + 7 + 5

10 Luke counted his toy cars. He had 7 red, 5 blue, 6 black, 3 silver and 4 white cars. How many cars is that?

11 Count on by 2s, starting from 20.

20

12

Hundreds	tens	Ones

13 9 − 4 = ☐   5 − 4 = ☐

7 − 4 = ☐

14 How much money is this?

15 What time is this?

☐ past ☐

Day 1

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? ☐

Revision

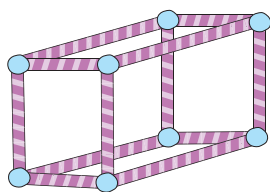**11** Write the missing number.

☐

0   10   20   30
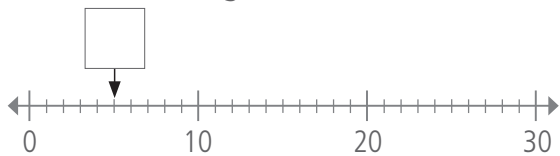
12 Write the number that has 5 hundreds, 2 tens and 6 ones. ☐

13 4 + 6 = ☐   2 + 8 = ☐

7 + 3 = ☐

14 Which Australian gold coin has the least value? ☐

15 How many faces, edges and corners?
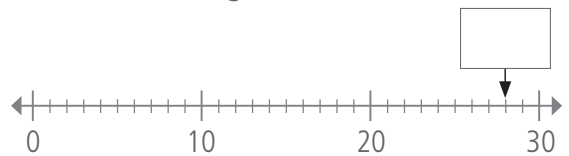
☐ faces
☐ edges
☐ corners

| Q1–10: | /10 | Q11–15: | /5 | My time: |

Day 2

1 53 – 9 ☐

2 156 – 9 ☐

3 74 – 19 ☐

4 143 – 19 ☐

5 55 – 29 ☐

6 247 – 29 ☐

7 78 – 39 ☐

8 342 – 39 ☐

9 181 – 49 ☐

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

Revision

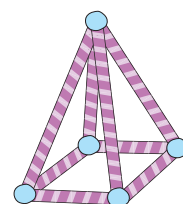**11** Write the missing number.

☐

0   10   20   30

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

13 4 + 8 = ☐   8 + 8 = ☐

7 + 6 = ☐

14 Which Australian silver coin has the least value? ☐

15 How many faces, edges and corners?
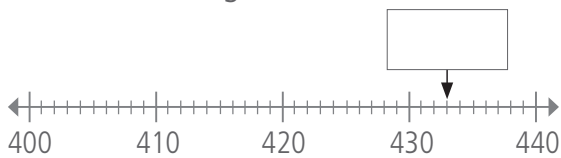
☐ faces
☐ edges
☐ corners

| Q1–10: | /10 | Q11–15: | /5 | My time: |

Day 3

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.

```
◄┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼►
  400      410      420      430      440
```
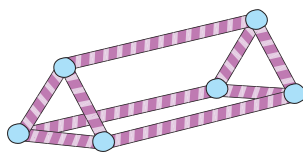
12 Write the number that has 9 hundreds and 9 ones.

13 6 + 6 =   9 + 9 =

5 + 5 =

14 Which Australian gold coin has the greatest value?

15 How many faces, edges and corners?

[ ] faces

[ ] edges

[ ] corners

Day 4

1 12 ÷ 2

2 10 ÷ 2

3 16 ÷ 2

4 20 ÷ 2

5 8 ÷ 2

6 14 ÷ 2

7 26 ÷ 2

8 50 ÷ 2

9 44 ÷ 2

10 24 marbles are shared equally by 2 friends. How many each?

11 Mark 85 on this number line.

```
◄┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼►
  50                                100
```
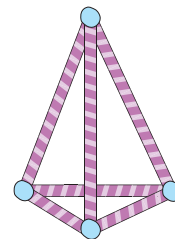
12 Write the number that has 2 ones, 7 hundreds and 1 ten.

13 19 + 5 =   17 + 8 =

16 + 7 =

14 What is the total value of one each of the Australian gold and silver coins?

15 How many faces, edges and corners?

[ ] faces

[ ] edges

[ ] corners

Revision

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 46 ÷ 2 ☐

9 100 ÷ 2 ☐

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

11 Write the missing number.

☐

```
+|+++++++++|+++++++++|+++++++++|+++++++++|+
800        810       820       830       840
```
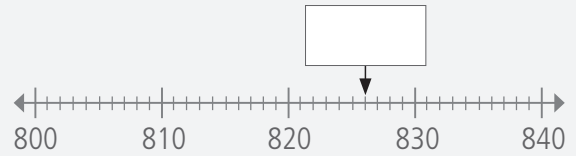
12 Write the number that has 4 tens, 3 ones and 6 hundreds. ☐

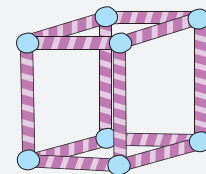**13** 8 + 4 = ☐   6 + 7 = ☐

5 + 9 = ☐

14 Which Australian silver coin has the greatest value? ☐

15 How many faces, edges and corners?

☐ faces

☐ edges

☐ corners

Assessment

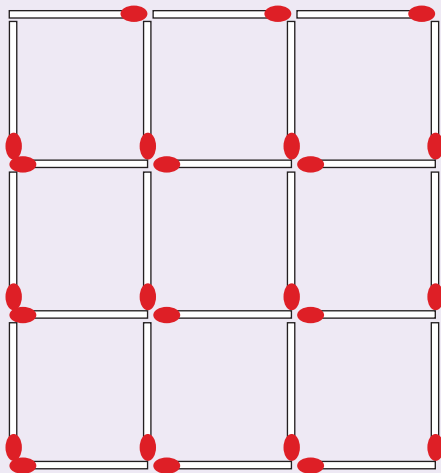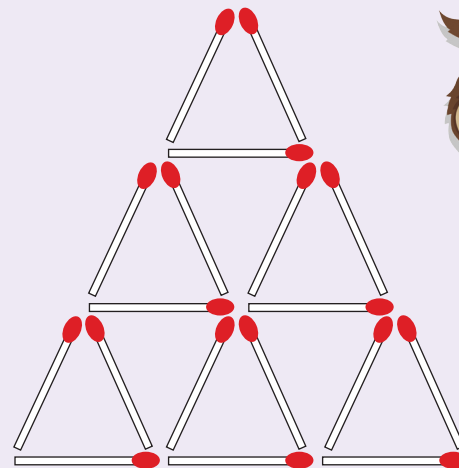| Q1–10:	/10	Q11–15:	/5	My time:

Think Box

Matchstick Puzzles

How many squares are in this shape?

Look out for squares made from other squares.

☐ squares

How many triangles are in this shape?

Look out for triangles made from other triangles.

☐ triangles