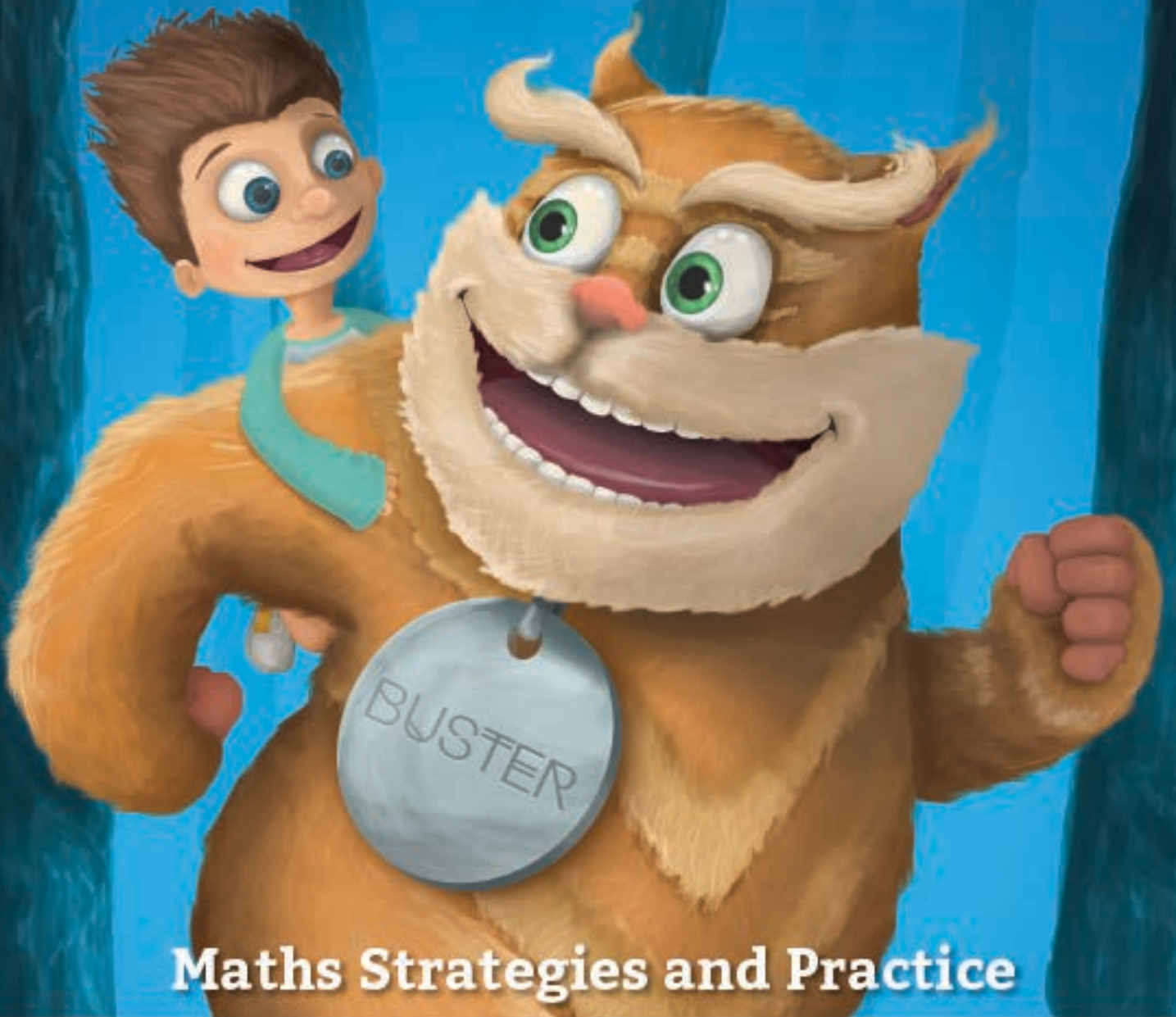


Think

5

MENTALS™

Student Workbook



Maths Strategies and Practice

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 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

70 is friendlier than 68

30 is friendlier than 31

500 is friendlier than 495

200 is friendlier than 202

3

Let's practise **finding friendly numbers**. Tick the calculation that is easier to do in each pair, then circle the friendly numbers.

$77 + 9$ or $76 + 10$

$50 + 12$ or $48 + 14$

$36 - 19$ or $37 - 20$

$495 - 16$ or $500 - 21$

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.

5 + 9 + **5** friendly pair

$17 + 2 + 8$

$7 + 3 + 11$

$4 + 1 + 9 + 6$

$1 + 45 + 9$

$3 + 7 + 7 + 3$

5

What if I can't find a friendly number?

$149 + 26$

?

$98 + 17$

$73 - 9$

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.

$\textcircled{29} + 46$

$51 + 26$

$155 + 102$

$497 + 125$

7

Now, change these numbers to make them friendly and show how you did it.

change

friendly

29

+1

30

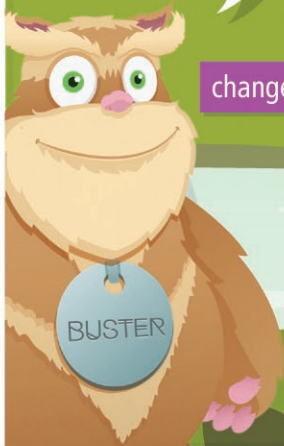
51

102

497

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

$$29 + 46$$

↓ +1 ↓ -1

$$30 + 45$$

fix

$$51 + 26$$

↓ -1 ↓

$$50 + \square$$

$$155 + 102$$

↓ ↓ -2

$$\square + 100$$

$$497 + 125$$

↓ +3 ↓

$$500 + \square$$

9



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

Can you **make** these numbers friendly?

$$853 = 800 + 50 + 3$$

$$419 =$$

$$272 =$$

$$690 =$$

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

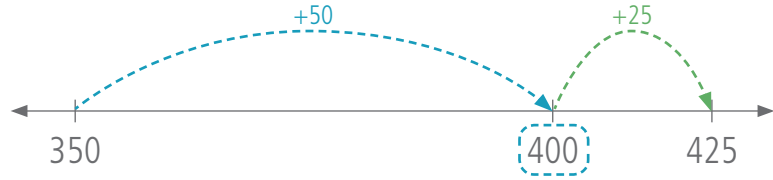
Friendly Jumps

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



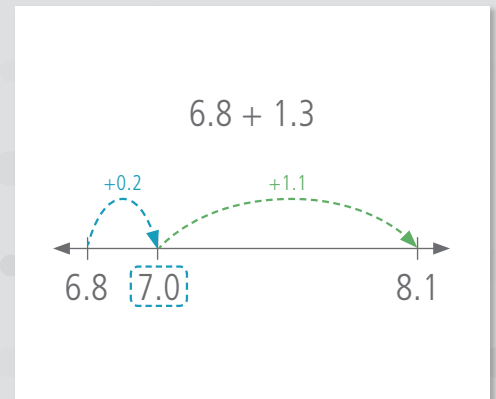
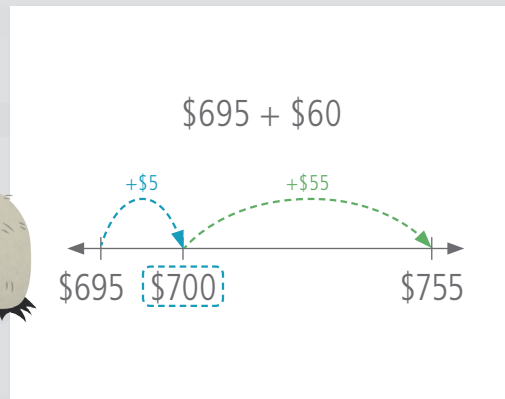
1 Jump forward to a friendly number.

$$350 + 75$$



2 Jump forward the rest.

Other Examples



Day 1

- 1 $250 + 75$
- 2 $180 + 60$
- 3 $670 + 38$
- 4 $498 + 22$
- 5 $950 + 55$
- 6 $\$795 + \40
- 7 $\$130 + \85
- 8 $\$4.90 + 45c$
- 9 $\$5.50 + 80c$

- 11 $15.8 + 0.4$
- 12 $3.5 + 0.8$
- 13 $7.7 + 0.6$
- 14 $22.6 + 0.5$
- 15 $9.4 + 0.8$
- 16 $197 + 24$
- 17 $496 + 18$
- 18 $395 + 66$
- 19 $890 + 59$

10 How much for a milkshake and a cupcake?



20 A 1140 mL jug of lemonade was mixed with 85 mL of fruit cordial. How much drink was made?

Practice

Q1–10: /20

My time:

Day 2

- 1 $380 + 45$
- 2 $\$550 + \75
- 3 $\$1.90 + 50c$
- 4 $\$3.50 + 85c$
- 5 $690 + 84$

Practice

- 6 44×2
- 7 52×2
- 8 $900 - 50$
- 9 $400 - 20$
- 10 $18 \div 2$

Revision

- 11 Complete this expanded notation.

= $9000 + 100 + 40 + 6$

- 12 Write 6275 using expanded notation.

- 13 Which number has the greater value, 4.14 or 4.4?

- 14 Write these numbers from least to greatest.

7.77 7.07 0.77 , ,

- 15 How much orange juice is in this jug?



- 16 How much more orange juice is needed to fill the jug to the 1 L mark?

- 17 What is the next number in this pattern?

1.5 2.0 2.5 3.0

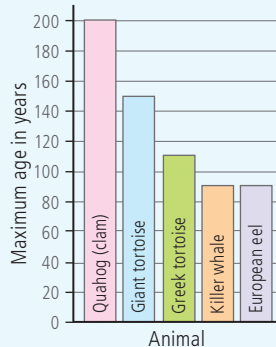
- 18 What is the repeated gap in the pattern?

+5 +0.5 +1.5

- 19 What is the maximum age of the Quahog (clam)?

- 20 Which animal has a maximum age of 150 years?

The Five Longest-living Animals



Day 3

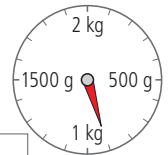
- 1 $880 \text{ kg} + 55 \text{ kg}$
- 2 $160 \text{ m} + 80 \text{ m}$
- 3 $7.5 + 0.8$
- 4 $5.6 \text{ s} + 0.6 \text{ s}$
- 5 $9.3 \text{ km} + 0.8 \text{ km}$

Practice

- 6 $\$45 \times 2$
- 7 $24 \text{ hours} \times 2$
- 8 $100 \text{ mL} - 55 \text{ mL}$
- 9 $200 - 75$
- 10 $\$80 \div 2$

Revision

- 11 What is the mass shown on the scales?



- 12 What mass needs to be added for the scales to reach 1.5 kg?

- 13 What is the next number in this pattern?

6.6 6.4 6.2 6.0

- 14 What is the repeated gap in the pattern?

-2 -0.2 -2.2

- 15 Which number has the greater value, 1.99 or 1.19?

- 16 Write these numbers from least to greatest.

5.2 2.05 5.02 , ,

- 17 Complete this expanded notation.

= $3000 + 300 + 80 + 5$

- 18 Write 1221 using expanded notation.

- 19 Which two animals have the closest lifespan?

- 20 Which animal has a maximum age of 110 years?

Q1-10:

/10

Q11-20:

/10

My time:

Q1-10:

/10

Q11-20:

/10

My time:

Day 4

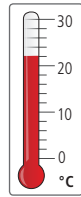
- 1 $1170 + 75$
- 2 $2080 \text{ km} + 88 \text{ km}$
- 3 $14.3 \text{ s} + 0.8 \text{ s}$
- 4 $22.5 + 0.7$
- 5 $395 \text{ L} + 67 \text{ L}$

Practice

- 6 73×2
- 7 2×84
- 8 $600 - 35$
- 9 $1000 \text{ mL} - 555 \text{ mL}$
- 10 $240 \div 2$

Revision

- 11 Which number has the greater value, 33.22 or 33.3?
- 12 Write these numbers from least to greatest.
1.1 0.11 1.01 , ,
- 13 Complete this expanded notation.
 = $4000 + 20 + 8$
- 14 Write 7077 using expanded notation.
- 15 What temperature is shown by this thermometer?
- 16 What will the temperature be if it increases 4°C , then drops 10°C ?
- 17 What is the next number in this pattern?
9.1 10.2 11.3 12.4
- 18 What is the repeated gap in the pattern?
- 19 Which mammal is 20 km/h slower than a pronghorn antelope?
 hare 72 km/h greyhound 68 km/h
 horse 69 km/h springbok 80 km/h
- 20 Which mammal is capable of exceeding a 100 km/h speed limit?



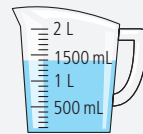
World's Five Fastest Mammals	
Mammal	Maximum recorded speed (km/h)
Cheetah	105
Pronghorn antelope	89
Mongolian gazelle	80
Springbok	80
Grant's gazelle	76

Day 5

- 1 $450 + 80$
- 2 $170 + 65$
- 3 $580 + 35$
- 4 $\$6.60 + 45c$
- 5 $\$8.50 + 85c$
- 6 $5.7 + 0.7$
- 7 $50.6 + 0.5$
- 8 $9.4 + 0.8$
- 9 $197 + 28$
- 10 $498 + 50$

Assessment

- 11 Complete this expanded notation.
 = $8000 + 900 + 10 + 4$
- 12 Write 1915 using expanded notation.
- 13 What is the next number in this pattern?
5.4 5.1 4.8 4.5 4.2
- 14 What is the repeated gap in the pattern?
- 15 Which number has the greater value, 7.61 or 7.16?
- 16 Write these numbers from least to greatest.
4.2 2.04 2.24 , ,
- 17 How much water is in this jug?
- 18 How much more water is needed to fill the jug to the 2 L mark?
- 19 Which two mammals have a maximum recorded speed of 80 km/h?
- 20 Which mammal can outrun a springbok by 25 km/h?



Q1–10: /10 Q11–20: /10 My time:

Q1–10: /10 Q11–20: /10 My time:

Addition
Strategy

Friendly Balance

Move amounts from one number to another to make easy additions.



1 Find a number to make friendly.

2 Make a friendly number.

Moving part of a number keeps the addition balanced.

3 Calculate.

$$\begin{array}{r}
 \boxed{499} + 51 \\
 \quad \quad \quad \uparrow \\
 \quad \quad \quad \text{move 1} \\
 = \underline{500} + \underline{50} \\
 = 550
 \end{array}$$

Other Examples

$$\begin{array}{r}
 \$42 + \boxed{\$38} \\
 \quad \quad \quad \uparrow \\
 \quad \quad \quad \text{move 2} \\
 = \underline{\$40} + \underline{\$40} \\
 = \$80
 \end{array}$$

$$\begin{array}{r}
 \boxed{7.9} + 2.3 \\
 \quad \quad \quad \uparrow \\
 \quad \quad \quad \text{move 0.1} \\
 = \underline{8.0} + \underline{2.2} \\
 = 10.2
 \end{array}$$

Day 1

1 $0.9 + 0.6$

2 $1.9 + 0.8$

3 $9.9 + 0.4$

4 $4.2 + 0.9$

5 $7.7 + 1.8$

6 $59 + 61$

7 $52 + 98$

8 $71 + 49$

9 $88 + 92$

10 Jojo's car had 28 L of fuel in the tank. She pumped 32 L more to fill it. How much fuel does the tank hold?

11 $599 + 61$

12 $199 + 71$

13 $797 + 43$

14 $290 + 510$

15 $\$294 + \106

16 $\$9.80 + \5.20

17 $\$1.95 + \1.05

18 $\$595 + \55

19 $\$280 + \820

20 Jojo drove her car 195 km before lunch. It is another 55 km to her destination. What will Jojo's total driving distance be?

Practice

Q1–10:

/20

My time:

Day 2

- 1 $9.9 + 0.6$
- 2 $2.7 + 3.3$
- 3 $38 + 42$
- 4 $505 + 195$
- 5 $99c + 88c$

Practice

- 6 16×5
- 7 22×5
- 8 $40 - 19$
- 9 $80 - 29$
- 10 $93 \div 3$

Revision

- 11 Circle multiples of 3.
4 9 21 23 30

- 12 Write the next three multiples of 5 after 40.

, ,

- 13 $2 \times 6 =$ $3 \times 7 =$ $5 \times 5 =$

- 14 Complete this multiplication grid.

x	2	3	5	10
2				
4				

- 15 Measure this line to the nearest millimetre.



- 16 In centimetres, the measurement is equal to:
 2.1 cm 2.5 cm 2.9 cm

- 17 Double 5, add 7, then subtract 2.

- 18 Multiply 4 by 3, add 8, then halve.

- 19 In which year did Sydney host the Summer Olympic Games?

- 20 Which city hosts the Summer Olympic Games in 2020?

Summer Olympic Games

Host City	Year
Sydney	2000
Athens	2004
Beijing	2008
London	2012
Rio de Janeiro	2016
Tokyo	2020

Day 3

- 1 $7.8 \text{ m} + 2.2 \text{ m}$
- 2 $91 \text{ L} + 89 \text{ L}$
- 3 $395 + 205$
- 4 $\$4.90 + \5.10
- 5 $895 \text{ km} + 55 \text{ km}$

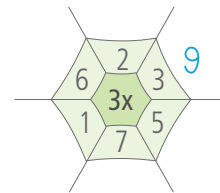
Practice

- 6 18×5
- 7 $\$66 \times 5$
- 8 $100 - 59$
- 9 $70 \text{ kg} - 39 \text{ kg}$
- 10 $848 \div 4$

Revision

- 11 $2 \times 8 =$ $3 \times 8 =$ $5 \times 7 =$

- 12 Complete this multiplication web.



- 13 Measure the height of this frog to the nearest millimetre.



- 14 Write the measurement in centimetres.

- 15 Circle multiples of 2.
5 7 8 18 41 42

- 16 Write the next three multiples of 4 after 16.
, ,

- 17 Add 6 to 94, double, then subtract 50.

- 18 Multiply 7 by 3, subtract 1, then divide by 5.

- 19 Athens hosted the first Olympic Games of the modern era in 1896. When was Athens host city again?

- 20 Are Summer Olympic Games years also leap years?

Day 4

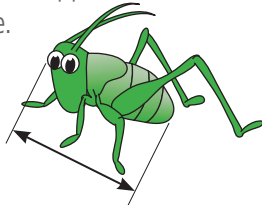
- 1 $66.9 + 3.1$
- 2 $7.1 + 0.9 + 8.4$
- 3 $99 + 51 + 30$
- 4 $1094 + 106$
- 5 $5005 + 4995$

Practice

- 6 64×5
- 7 120×5
- 8 $300 - 149$
- 9 $1100 - 99$
- 10 $609 \div 3$

Revision

- 11 Measure the length of this grasshopper's body to the nearest millimetre.



- 12 Write the measurement in centimetres.

13 $5 \times 3 =$ $2 \times 7 =$ $8 \times 10 =$

14 $2 \times 8 =$ $3 \times 6 =$ $9 \times 10 =$

- 15 Halve 16, add 1, then multiply by 3.

- 16 Subtract 2 from 37, divide by 5, then add a dozen.

- 17 Are the following numbers mostly multiples of 2, 3 or 5?

4 8 12 14 16

- 18 Are the following numbers mostly multiples of 4, 5 or 6?

10 15 30 45 50

- 19 How often is the football World Cup held?

- 20 Which country hosted the football World Cup eight years after Germany?

World Cup Football

Host Country	Year
Germany	2006
South Africa	2010
Brazil	2014
Russia	2018
Qatar	2022

Day 5

- 1 $5.8 + 2.2$
- 2 $1.9 + 0.6$
- 3 $3.7 + 4.3$
- 4 $29 + 31$
- 5 $62 + 58$
- 6 $99c + 26c$
- 7 $105 + 195$
- 8 $495 + 55$
- 9 $\$10.10 + \4.90
- 10 $380 + 220$

Assessment

- 11 Add 3 to 17, double, then subtract 2.

- 12 Multiply 5 by 5, subtract 4, then double.

13 $8 \times 30 =$ $5 \times 800 =$

$17 \times 10 =$

- 14 Complete this multiplication grid.

x	9	7	4	2
5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

- 15 Circle multiples of 5.

8 10 25 28 35

- 16 Write the next three multiples of 6 after 12.

, ,

- 17 Measure the length of the pencil to this nearest millimetre.



- 18 Write the measurement in centimetres.

- 19 Which country hosts the World Cup in 2022?

- 20 In which year is the World Cup held after Qatar is the host country?

Q1–10: /10 Q11–20: /10 My time:

Q1–10: /10 Q11–20: /10 My time:

Day 1

- 1 $440 + 80$
- 2 $170 + 55$
- 3 $560 + 45$
- 4 $\$9.60 + 45c$
- 5 $\$5.50 + 85c$
- 6 $2.7 + 0.7$
- 7 $30.6 + 0.5$
- 8 $5.4 + 0.8$
- 9 $197 + 38$
- 10 $298 + 50$

Revision

Day 2

- 1 $710 - 60$
- 2 $540 - 50$
- 3 $8.6 - 0.7$
- 4 $3.2 - 0.4$
- 5 $900 - 51$
- 6 $200 - 22$
- 7 $100 - 55$
- 8 $\$5.50 - 80c$
- 9 $\$9.20 - 50c$
- 10 $\$18.20 - 40c$

Revision

11 How much orange juice is in this jug?



12 How much more orange juice is needed to fill the jug to the 1 L mark?

13 $\frac{1}{2}$ hour = minutes

14 2 weeks = days

15 $37 \times 100 =$

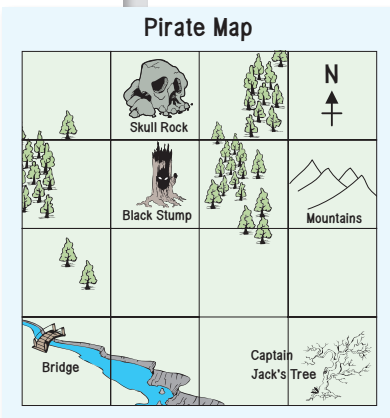
16 $8100 \div 10 =$

17 Write forty thousand as a numeral.

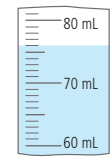
18 Which digit is in the thousands place in 23 100?

19 Which map feature is located north of Captain Jack's Tree?
 Mountains Waterfall Bridge

20 The direction from the Mountains to the Black Stump is:
 north south east west



11 How much liquid is in this container?



12 How much more liquid is needed to make 80 mL?

13 $\frac{1}{4}$ hour = minutes

14 3 weeks = days

15 $45 \times 100 =$

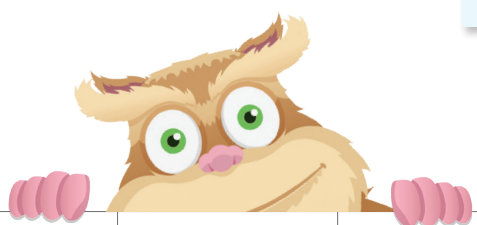
16 $1600 \div 10 =$

17 Write thirty-three thousand as a numeral.

18 Which digit is in the hundreds place in 87 200?

19 Which location is north of the Black Stump?

20 The direction from the Mountains to Captain Jack's Tree is .



Day 3

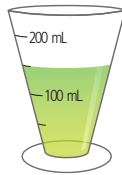
- 1 8×15
- 2 18×5
- 3 16×3
- 4 16×15
- 5 6×15
- 6 45×8
- 7 35×6
- 8 35×4
- 9 15×18
- 10 35×12

Revision

11 Which digit is in the ten thousands place in 20 710?

12 Which of these numbers has the greater value, 50 550 or 55 500?

13 How much liquid is in this cup of medicine?



14 How much is half the amount shown?

15 Which one is equal to 5000?
 50×10 50×100 50×1000

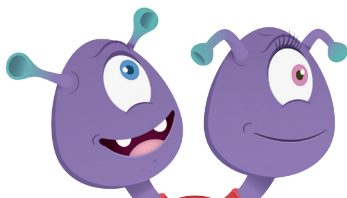
16 Which one is equal to 99?
 $9900 \div 10$ $9900 \div 100$ $9900 \div 1000$

17 How many minutes in $\frac{3}{4}$ of an hour?

18 48 hours = days

19 Which pirate ship is north of the island?

20 Which pirate ship is south of Tempest?



1				
2	Shadow	Phantom	Fury	
3	N ↑			
4	Rebellion		Tempest	
5			Dreadlock	
	A	B	C	D

Day 4

- 1 $\frac{1}{3}$ of 18
- 2 $\frac{1}{7}$ of 49
- 3 $\frac{1}{2}$ of 48
- 4 $\frac{1}{5}$ of 30
- 5 $\frac{1}{4}$ of 28
- 6 $\frac{1}{9}$ of 81
- 7 $\frac{1}{6}$ of 36
- 8 $\frac{1}{2}$ of 82
- 9 $\frac{1}{7}$ of 35
- 10 $\frac{1}{8}$ of 64

Revision

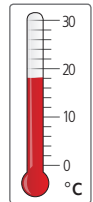
11 $220 \times 100 =$

12 $8000 \div 100 =$

13 A movie screened for $1\frac{3}{4}$ hours. How many minutes did it last?

14 36 hours = days

15 What temperature is shown by this thermometer?



16 The temperature increased a further 2°C that day before dropping 12°C to its minimum. What was the minimum temperature?

17 Write eighty-eight thousand as a numeral.

18 Which of these numbers has the greater value, 12 110 or 12 102?

19 How many pirate ships are east of map reference B1?

20 Which pirate ship would sail east then north to the island?

Q1–10: /10

Q11–20: /10

My time:

Q1–10: /10

Q11–20: /10

My time:

Day 5

- 1 $840 + 80$
- 2 $270 + 65$
- 3 $2.2 - 0.8$
- 4 $3.5 - 0.6$
- 5 12×15
- 6 45×6
- 7 35×8
- 8 $\frac{1}{3}$ of 21
- 9 $\frac{1}{7}$ of 56
- 10 $\frac{1}{5}$ of 45
- 11 How much water is in this jug?
- 12 How much more water is needed to fill this jug to the 2 L mark?
- 13 $53 \times 1000 =$



- 14 $6100 \div 10 =$
- 15 Which digit is in the ten thousands place in 54 321?
- 16 Which of these numbers has the greater value, 98 890 or 98 980?
- 17 How many minutes in a $\frac{1}{4}$ hour?
- 18 $\frac{1}{2}$ a day is equal to:
 6 hours 12 hours 18 hours
- 19 Which pirate ship is east of the island?
- 20 Which pirate ship is west of Phantom?

Pirate Ships

1			
2	Shadow	Phantom	Fury
3	N ↑		
4	Rebellion		Tempest
5			Dreadlock
	A	B	C D E

Assessment

Q1–10:

/10

Q11–20:

/10

My time:

Think Box

Calculator Story

Right-o, shipmates! Use your calculator to solve the clues below. For each answer, turn your calculator upside down and write the word in the story.

Clues

- | | |
|--------------------------------|-------------------------|
| 1 1538×3 | 13 $615\ 293 \times 9$ |
| 2 $1640 + 2111$ | 14 $493 + 166 + 74$ |
| 3 $2345 \div 7$ | 15 $6677 \div 11$ |
| 4 $8028 - 7514$ | 16 $213\ 803 \times 25$ |
| 5 $10 \times 27\ 679 \times 2$ | 17 $53\ 400 - 355$ |
| 6 3923×96 | 18 $15\ 428 \div 2$ |
| 7 $4112 \div 8$ | 19 $4304 + 1000$ |
| 8 $5000 + 999 + 76$ | 20 0.2×3.869 |
| 9 $555\ 555 - 20\ 041$ | 21 926×4 |
| 10 $8 \times 672\ 351$ | 22 $7777 - 672$ |
| 11 $28\ 554 + 28\ 554$ | 23 $105\ 280 \div 28$ |
| 12 $1000 - 382$ | 24 $5000 + 500 + 7$ |

Captain Blackbeard, the most feared pirate on the 1 _____ seas, yells, "Land ho! 'Tis the Treasure 2 _____ | 3 _____!" Captain Blackbeard and 4 _____ crew set anchor and row to the jungle island. Untold riches will 5 _____ any pirate and 6 _____ 7 _____ mind. Blackbeard curses himself for choosing the jungle as the hiding place for the treasure.

The pirates 8 _____ their way through a steamy swamp as a snake 9 _____ overhead. The ooze 10 _____ and 11 _____, but the crew dares not grumble, even when a 12 _____ 13 _____ 14 _____ slithers over a 15 _____ and 16 _____ into the murky waters beneath their 17 _____.

Following Blackbeard's map the crew stops on a low, grassy 18 _____. "Grab the shovels and 19 _____ and dig, me hearties!" 20 _____ws the Captain. Within minutes a huge chest is hoisted out of the 21 _____ and dumped beside the mound of 22 _____. Captain Blackbeard breaks the lock and throws open the lid. Captain and crew alike stand and 23 _____ the sight, at a 24 _____ for words. Before them is a dazzling array of gold, jewels and pearls beyond imagination!