Unit 6 – Multiplication and division

1 Multiples of 10

➜ pages 6–8

1. a) 140
b) 190
c) 150

2. Children should fill 1 ten frame and draw 4 in the top row of the third.

3. Children should match:

54 × 10	540
45 × 10	450
51 × 10	510
10 × 41	410

4.

	15	190	250	130	105	90	480	30
	50	500	5	110	70	40	202	180
	150	99	408	17	175	104	97	400
	280	360	41	440	180	140	10	340
	302	520	197	80	56	65	901	604
	140	600	81	160	572	20	100	60
	230	65	532	200	310	150	256	220
Start	90	99	101	307	66	428	999	80	Finish

5. a) 250
b) 180
c) 360

Reflect

I can tell if a number is a multiple of 10 by **looking at the ones digit which will be 0.**

2 Related calculations

➜ pages 9–11

1. a) 2 × 3 = **6**
There are **6** pins.
b) 2 × 30 = **60**
There are **60** pins.

2. a) 3 × 2 = **6**
Player 1's score is **6**.
b) 3 × 20 = **60**
Player 2's score is **60**.

3. a) 6 × 4 = 24
b) 6 × 40 = 240

4. a) 3 × 5 = **15**
b) 30 × 5 = **150**

5. a) 6 × 4 = **24**
6 × 40 = **240**
c) 12 × 30 = **360**
8 × 30 = **240**
d) **80** = 4 × 20
160 = 20 × 8
b) 9 × 5 = **45**
9 × 50 = **450**
9 × 30 = **270**
30 × 5 = **150**
0 = 0 × 20
220 = 11 × 20

6. Holly will get 350. 50 is ten times 5, so the answer will be ten times greater.
Her first number is 7 because 7 × 5 = 35.
7 × 50 = 350

Reflect

I have learnt that if I know 4 × 8, I can work out 4 × 80 by **multiplying the answer to 4 × 8 by 10.**

4 × 8 = 32 so 4 × 80 = 320.

3 Reasoning about multiplication

➜ pages 12–14

1. Aki has the least number of biscuits.
5 × 10 **<** 6 × 10

2. a) 8 × 5 **<** 10 × 5
b) 3 × 3 **>** 3 × 1
c) 4 × 10 **=** 8 × 5
d) 7 × 2 **<** 9 × 2

3. a) 0, 1, 2, 3 or 4
b) 4
c) 5, 6, 7, 8 or 9

4. 6 × 20 **<** 7 × 20
There are more mints in total in the **bags**.

5. 4 × 30 **<** 5 × 30

6. a) 3 × 50 **<** 7 × 50
b) 4 × 80 **>** 4 × 20
c) 50 × 4 **>** 3 × 50

7. 8 × 3 = **24**
7 × 3 = **21**
9 × 3 = **27**
Explanations will vary, such as adding 5 × 3 and 3 × 3 to find 8 × 3.

Reflect

There are many possible answers, such as **2** × 5 > **1** × 8, **6** × 5 > **3** × 8 and **10** × 5 > **6** × 8.

The number being multiplied by 5 is always greater than the number being multiplied by 8.

4 Multiply 2-digits by 1-digit – no exchange

➜ pages 15–17

1. 43 × 2 = **86** pencils

2. 22 × 4 = **88**

3. a) 32 × 3 = **96**
b) 34 × 2 = **68**

4. a) 14 × 2 = **28** b) 3 × 33 = **99**

5. a) 2 × 23 = (2 × 20) + (2 × 3) = 40 + 6 = **46**
b) 24 × 2 = 40 + 8 = **48**
32 × 3 = 90 + 6 = **96**
2 × 43 = 80 + 6 = **86**

Reflect

Children should write how they would work out 3 × 13. They might explain multiplying the 10s first, and then the 1s and then adding the answers together. Or they might explain drawing a diagram to help them, for example a place value grid.

5 Multiply 2-digits by 1-digit – exchange

→ pages 18–20

1. a) 3 × 24 = **72** c) 2 × 28 = **56**
b) 5 × 13 = **65** d) 4 × 36 = **144**

2. a) 35 × 3 = **105** b) 4 × 25 = **100**

3. a) 3 × 26 = **78** b) 6 × 14 = **84**

4. 33 × 5 = 165
There are **165** litres of paint in 33 tins.

5. a) 3 × **17** = 51 b) 2 × **49** = 98

6. Children should match:

56 × 3	168
26 × 8	208
37 × 5	185

Reflect

36 × 4 and 72 × 2 both = 144

36 is half of 72, 4 is double 2

The first part of the first multiplication is doubled and the second part of the second multiplication is halved to create two multiplications that give the same answer.

6 Expanded written method

→ pages 21–23

1. a) 25 × 3 = **75**
b) 17 × 4 = **68**

2. a) 16 × 3 = **48** b) 48 × 2 = **96**

3. a) 14 × 5 = **70** b) 4 × 19 = **76**

4. a) 12 × 4 b) 21 × 4

5. Any number multiplied by 1 is simply the number itself. Jamie did not need to do a multiplication.

6. a) 35 × 3 = **105** b) 18 × 6 = **108**

7. 55 × 3 = 15 + 150 = 165

Circle = 5
Triangle = 1
Heart = 0

Reflect

	H	T	O
		2	3
×			5
		1	5
+	1	0	0
	1	1	5

Children should explain putting the digits in the correct columns, and multiplying 3 × 5 first, and then 20 × 5 and finally adding the two together.

7 Link multiplication and division

→ pages 24–26

1. 9 ÷ 3 = **3**
There are **3** cherries on each plate.

2. a) 4 × 5 = **20** **20** ÷ 4 = 5
b) 5 × 30 = **150** **150** ÷ 5 = 30

3. a) 12 × 2 = **24**
2 × 12 = **24**
24 ÷ **2** = 12
24 ÷ **12** = 2
b) 5 × 7 = 35
7 × 5 = 35
35 ÷ 5 = 7
35 ÷ 7 = 5
c) 10 × 5 = 50
5 × 10 = 50
50 ÷ 10 = 5
50 ÷ 5 = 10

4. a) 6 × 4 = 24
4 × 6 = 24
24 ÷ 6 = 4
24 ÷ 4 = 6
b) 60 × 4 = 240
4 × 60 = 240
240 ÷ 60 = 4
240 ÷ 4 = 60

Reflect

I know 8 × 3 = 24, so I also know that 3 × 8 = 24, 24 ÷ 8 = 3 and 24 ÷ 3 = 8. And, 80 × 3 = 240, 30 × 8 = 240, 240 ÷ 8 = 30, 240 ÷ 30 = 8, 240 ÷ 80 = 3 and 240 ÷ 3 = 80.

8 Divide 2-digits by 1-digit – no exchange

➜ pages 27–29

1. 28 ÷ 2 = 14
There are **14** apples in each basket.

2. 69 ÷ 3 = **23**

3. 88 ÷ 4 = **22**

4. a) 26 ÷ 2 = **13**
b) 36 ÷ 3 = **12**
c) 40 ÷ 2 = **20**
d) 64 ÷ 2 = **32**

5. 39 ÷ 3 = 13
There are **13** apples in each bag.

6. a) **64** ÷ 2 = 32
b) **96** ÷ 3 = 32
c) **44** ÷ 2 = 22
d) **66** ÷ 3 = 22

Reflect

Children should explain recalling multiplication facts and reordering the numbers in a division to give a multiplication.

9 Divide 2-digits by 1-digit – flexible partitioning

➜ pages 30–32

1. a) 45 ÷ 3 = **15**
b) 34 ÷ 2 = **17**
c) 52 ÷ 4 = **13**

2. a) 72 ÷ 2 = **36**
b) 95 ÷ 5 = **19**
c) 72 ÷ 3 = **24**
d) 57 ÷ 3 = **19**

3. 84 ÷ 3 = 28

There are enough ice cubes for 27 children to have 3 each.

4. a) **78** ÷ 3 = 26
b) **85** ÷ 5 = 17
c) **76** ÷ 4 = 19

Reflect

Both numbers can be partitioned so that each part is divisible by 4.

84 ÷ 4 can be done mentally by partitioning 84 into 80 and 4, then dividing by 4 to give 20 + 1 = **21**.

52 ÷ 4 needs to be partitioned differently, into 40 + 12, which can be divided by 4 to give 10 + 3 = **13**.

10 Divide 2-digits by 1-digit with remainders

➜ pages 33–35

1. a) 9 ÷ 2 = **4** remainder **1**
b) 9 ÷ 4 = **2** remainder **1**

2. 10 ÷ 4 = **2** remainder **2**

3. a) 16 ÷ 3 = **5** remainder **1**
b) 17 ÷ 3 = **5** remainder **2**
c) 18 ÷ 3 = **6** remainder **0**

4. a) 25 ÷ 3 = **8** remainder **1**
b) 25 ÷ 4 = **6** remainder **1**
c) 25 ÷ 5 = **5**
d) 25 ÷ 6 = **4** remainder **1**
e) 25 ÷ 7 = **3** remainder **4**
f) 25 ÷ 8 = **3** remainder **1**

5. I predict that **57 ÷ 5 will have a remainder because 57 is not a multiple of 5.**
57 ÷ 5 = 11 remainder 2

6. Ambika's number is 53.

Reflect

27 ÷ 2 and 35 ÷ 2 will have a remainder because 27 and 35 are odd numbers.

Odd numbers cannot be divided exactly by 2.

11 How many ways?

➜ pages 36–38

1. a)

Glasses	Shoes
A	1
A	2
A	3
B	1
B	2
B	3
C	1
C	2
C	3

b) 3 × 3 = 9
There are **9** ways.

2. a) 5 × 2 = 10
There are **10** ways.

b)

Symbol	Letter
△	X
⬠	X
○	X
⏢	X
◇	X

Symbol	Letter
△	Y
⬠	Y
○	Y
⏢	Y
◇	

c) There are **24** ways.

3. There are **20** ways.

4. I can make **6** flags. Children should explain 3 × 2 = 6.

Reflect

To work out the number of ways in question 3, **I would multiply the number of fruit items by the number of snack items: 4 × 5 = 20 ways.**

I2 Problem solving – mixed problems (I)

➜ pages 39–41

1. There are **45** cakes in total.

2. There are **16** items of clothing in each drawer.

3. a) There are **96 ml** of honey in the jar.
b) There are **32 ml** of honey in each bowl.

4. The tower is **102 metres** tall.

5. 26 × 3 = **39** × 2

6. 2 books cost **£34**.

Reflect

Children should discuss either 72 ÷ 4 = 18 or 18 × 4 = 72.

I3 Problem solving – mixed problems (2)

➜ pages 42–44

1. Ebo buys **42** ice creams in total.

2. There are **21** more pears than apples.

3. a) There are **48** balloons in 6 bags.
b) Reena needs to buy **10** bags.

4. They have **35** rulers altogether.

5. a) 4 × 3 + 5 × 3 = **9** × 3
b) 8 × 5 + **4** × 5 = 12 × 5
c) 3 × 8 + 8 = **4** × 8
d) 7 × 4 – 2 × 4 = **5** × 4
e) 5 × 2 + 8 = **9** × 2

6. The cost of an egg is **21** pence.

Reflect

Children should explain one of the following:

(5 × 6) + (3 × 6) = 30 + 18 = 48

(5 + 3) × 6 = 8 × 6 = 48

My journal

➜ page 45

1. a) 8 × 15 = 8 × 10 + 8 × 5 = 80 + 40 = 120
b) 87 ÷ 3 = (60 ÷ 3) + (27 ÷ 3) = 20 + 9 = 29

2.

a)	36 × 3	72 × 3	155 × 3	765 × 3	999 × 3
	8	**6**	**5**	**5**	**7**
b)	34 × 2	49 × 2	55 × 5	72 × 8	139 × 4
	8	**8**	**5**	**6**	**6**

Power puzzle

➜ page 46

a) 30 × 6 = 180 or 60 × 3 = 180

b) 9 × 4 + 6 × 4 = 15 × 4

c) Here is one solution:

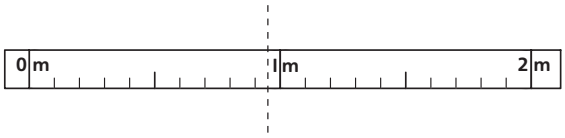
	H	T	O
		3	**2**
×			**4**
			8
+	**1**	**2**	**0**
	1	**2**	**8**

Unit 7 – Length and perimeter

I Measure in m and cm

➜ pages 47–49

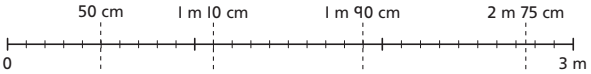
1. a) The shark is **2** m **20** cm long.
b) The dolphin is **1** m **90** cm long.
c) The swordfish is **3** m **15** cm long.
d)



2. Children's answers will vary. Ensure children have accurately measured and recorded three arm spans.

3. Mark has forgotten that there is extra space at the end and start of each ruler. He should line up the 0 cm mark on the second ruler with the 30 cm mark on the first ruler and measure the line from the 0 cm point, not the start of the ruler, to the 30 cm mark, not the end of the ruler.

4.



5. Children's items will vary, depending on what is in the classroom. For example:

Under 1 m: a pencil, a ruler.

Between 1 m and 1 m 50 cm: a bookshelf, a table width.

Between 2 m and 3 m: the door height, the length of the carpet area.

6. Ebo could check by laying a piece of string along his line and then pulling it straight and measuring the string against a ruler or metre ruler.

Reflect

Answers will vary. For example, stand with your back to a wall and your feet flat on the floor. Ask a partner to put a ruler across the top of your head and mark the position where it touches the wall. Step away from the wall and measure from the floor to the mark.

2 Measure in cm and mm

➜ pages 50–52

1. a) The toy car is **37** mm long.
b) The pencil is **9** cm long.
c) The lollipop is **5** cm and **4** mm tall.

2. Children should draw lines that measure:
a) 3 cm
b) 56 mm
c) 4 cm and 8 mm long.

3. a) 38 mm
b) 72 mm
c) 49 mm

4. Children's answers will vary. Check children measure accurately and write their answers in cm and mm.

5. a) Children should explain that the most efficient measurements would be metres and centimetres for the elephant, because it is big, and centimetres and millimetres for the mouse, because it is small.
b) Children's answers will vary. For example:
Centimetres: eraser, pencil, book.
Millimetres: paperclip, multilink cube, counter.

Reflect

To measure accurately you must **line up your ruler so the 0 cm mark aligns with the start of the object. You then read the measurement at the end of the object. Count the number of mm intervals after the nearest cm mark to find the length to the nearest cm and mm.**

3 Metres, centimetres and millimetres

➜ pages 53–55

1. Pencil – 10 cm
Coin – 10 mm
Pool – 10 m

2. a) The length of the book is 23 **cm**.
b) The height of the cup is 8 **cm**.
c) The height of the football goal is 2 **m**.
d) The width of the pencil sharpener is 23 **mm**.

3. a) 1 m is **100** cm.
b) 4 m is **400** cm.

4. a) 1 cm is **10** mm.
b) 3 cm is **30** mm.
c) 4 cm is **40** mm.

5. a) 80 mm is **8** cm.
b) 700 cm is **7** m.

6. 500 cm is **5** m
9 cm is **90** mm
700 cm is 7 m
7 cm is 70 mm
900 cm is **9** m
5 cm is 50 mm
800 cm is 8 m
10 cm is 100 mm.

Reflect

Children should offer sensible answers. For example:

Something that might be 7 mm long is a **coin**.
Something that might be 7 cm long is a **crayon**.
Something that might be 7 m long is a **truck**.

4 Equivalent lengths (m and cm)

→ pages 56–58

1. a) Aki jumped **1** m and **45** cm.
b) Jamilla jumped **215** cm.
c) Jamie jumped **1** m **67** cm.

2. a) **121** cm b) **2** m **31** cm
c) **121** cm d) **800** cm

3.

5 m 30 cm	**530** cm
5 m **73** cm	673 cm
3 m 3 cm	**303** cm
0 m 23 cm	**23** cm

4. Children should explain that Filip has made a place value error. 2 m 4 cm is 204 cm, not 240 cm.

5. Answers in cm:

532 cm	10 cm	764 cm	0 cm
343 cm	574 cm	932 cm	75 cm
26 cm	312 cm	110 cm	846 cm
56 cm	407 cm	1 cm	300 cm
632 cm	45 cm	365 cm	64 cm

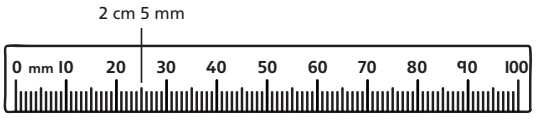
Reflect

Answers will vary. For example, 1 m is equivalent to 100 cm, so 3 m is 300 cm and 7 m 22 cm is 700 cm and another 22 cm, so 722cm. 100 cm is equivalent to 1m so 243 cm is 2 m and another 43 cm.

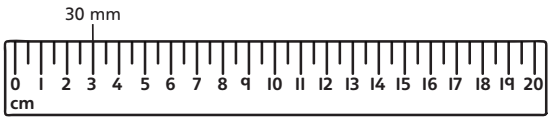
5 Equivalent lengths (mm and cm)

→ pages 59–61

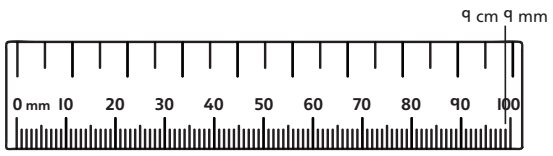
1. a)



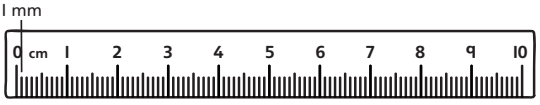
b)



c)



d)



2. a) **3** cm **8** mm
b) **10** mm **1** mm; **11** mm
c) **7** cm **5** mm

3.

7 cm 22 mm	**92** mm
9 cm **2** mm	92 mm
3 cm 0 mm	**9** cm
2 cm 81 mm	**101** mm

4. Yes, Kate is correct. Children should explain that 10 mm is equivalent to 1 cm, so 5 mm is less than 1 whole cm.

5. a) **67 mm** and c) **6 cm 7 mm** are equal lengths.

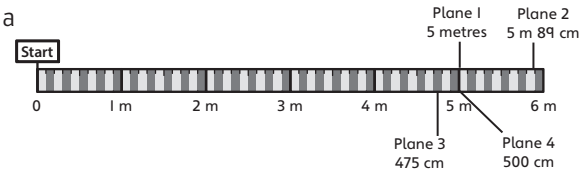
Reflect

I think **centimetres and millimetres** are better because **then you don't have to do a conversion, which may lead to errors**.

6 Compare lengths

→ pages 62–64

1. a



b) Plane **2**
c) Plane **3**
d) Plane **3**

2. a) 12 cm **<** 48 cm
b) 13 cm **<** 13 m
c) 5 m 87 cm **>** 5 m 45 cm
d) 4 m 18 cm **<** 7 m 81 cm
e) 6 m **>** 5 m 98 cm
f) 7 m **=** 700 cm
g) 14 cm **>** 40 mm
h) 92 mm **>** 8 cm

3. Children should circle the longest length in each list:
a) 1 m 75 cm
b) 418 cm
c) 890 cm
d) 2m 19 cm
e) 7 cm 2 mm
f) 240 mm
g) 45 cm 3 mm

4. Shortest to longest: 970 mm, 190 cm, 1 m 95 cm, 200 cm.

5. a) **10** m and **30** cm
b) **500** cm

6. The box is longer.

Reflect

Children should explain converting them to an equivalent unit of measurement and then comparing them.

For example, convert into cm: 3 m 8 cm = 308 cm, 380 cm stays the same and 380 mm = 38 cm.

38 cm < 308 cm < 380 cm.

7 Add lengths

→ pages 65–67

1. a) 6 m + 3 m = **9** m
b) 40 cm + 20 cm = **60** cm

2. 120 cm + 65 cm = **185** cm

3. The total height is **1 m 70 cm**.

4. Total height:
A = 70 cm
B = 110 cm or 1 m 10 cm
C = 1 m 80 cm or 180 cm
D = 2 m or 200 cm

5. a) 75 cm + 25 cm = **1** m
b) 27 mm + **3** mm = 3 cm
c) 6 cm + 70 mm = **13** cm
d) 2 m 25 cm + **75** cm = 3 m

6. Jamilla travelled 80 cm + 70 cm + 120 cm = 270 cm or 2 m 70 cm.

Andy travelled 70 cm + 110 cm + 100 cm = 280 cm or 2 m 80 cm.

Andy won the competition.

7. 40 mm + 32 mm + 84 mm + 27 mm = **183 mm** or **18 cm 3 mm**

or 4 cm + 3 cm 2 mm + 8 cm 4 mm + 2 cm 7 mm = 17 cm + 13 mm = 18 cm 3 mm

Reflect

No. Zac has forgotten that he needs to include the original metre. So 60 cm + 70 cm is 1 m 30 cm, but then add the original metre = 1m 30 cm + 1 m = 2 m 30 cm.

8 Subtract lengths

→ pages 68–70

1. a) The pipe is now **2 m 50 cm** long.
b) There is **1 m 50 cm** of the plank left.
c) The string is **35 mm** or **3 cm 5 mm** long.

2. a) 362 cm – 145 cm = **217 cm**
b) 185 m – 59 m = **126 m**

3. The flower sticks out **20 cm**.

4. a) 1 m 10 cm – 50 cm = **60 cm**
b) 318 cm – 1 m 70 cm = **148 cm** or **1 m 48 cm**
c) 350 cm – **1 m 40 cm** or **140 cm** = 2 m 10 cm
d) 85 mm – 2 cm = **65 mm** or **6 cm 5 mm**
e) 5 cm 8 mm – 20 mm = **38 mm** or **3 cm 8 mm**
f) 2 cm 5 mm – 8 mm = **17 mm** or **1 cm 7 mm**

5. Aki used **3 m 90 cm** or **390 cm** of the ribbon.

Reflect

Children's methods may vary. For example, for 3 m 30 cm – 165 cm you could convert to cm, so 330 cm – 165 cm = 165 cm. For 2 m – 1 m 30 cm, it may be easier to find the difference of 70 cm, so 2 m – 1 m 30 cm = 70 cm.

9 Measure perimeter

→ pages 71–73

1. a) The sides are 4 cm and 5 cm.
The perimeter of the rectangle is **18** cm.
b) The sides are 3 cm.
The perimeter of the triangle is **9** cm.
c) The sides are 4 cm.
The square has a perimeter of **16** cm.

2. a) The sides are 36 mm and 18 mm.
Perimeter = 108 mm or 10 cm 8 mm
b) The sides are 40 mm, 64 mm and 76 mm.
Perimeter = 180 mm
c) The sides are 25 mm, 34 mm, 36 mm and 40 mm.
Perimeter = 135 mm

3. Children should draw a shape with a perimeter of 8 cm, for example, a square with sides of 2 cm each.

4. A = 11 cm 7 mm, B = 10 cm 6 mm, C = 9 cm 4 mm
Shortest to longest: C, B, A.

Reflect

Children should explain measuring the distance around the sides of the shape to find the perimeter.

10 Calculate perimeter

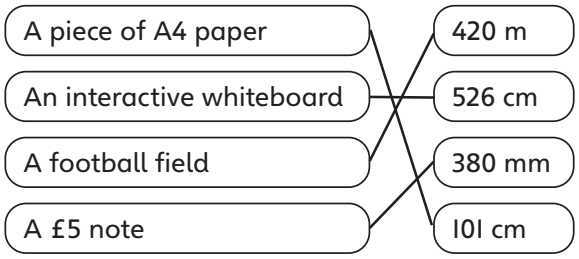
→ pages 74–76

1. a) Perimeter = **47** m
b) Perimeter = **42** mm
c) Perimeter = **46** cm
d) Perimeter = **32** cm

2. The missing lengths are:
a) **12** cm
b) **5** cm
c) **6** mm

3. The perimeter of the field is **140 m**.

4.



5. Perimeter = **12** cm

Reflect

Children should explain that if you know the length of the sides, you can work out the perimeter by adding all the side lengths together and finding the total. The total or sum of all the sides is the perimeter.

II Problem solving – length

→ pages 77–79

1. 25 × **3** = **75**. Luis swims **75** metres.

2. **40** ÷ **5** = **8**. Each piece is **8** cm.

3. **72** ÷ **9** = **8**. The baker pipes **8** pastries in 1 minute.

4. 20 × 4 = 80.
80 metres of fence is needed.

5. Children should draw a picture to show 145 × 3 = 435 cm + 245 = 680 cm or 6 m 80 cm.
Jamilla needs **6** m **80** cm of curtain poles.

6. 5 × 35 = 175
3 × 53 = 159
175 > 159
5 × 35 cm is longer.

7. a) **150** cm and **150** cm
b) **16** cm **5** mm and **16** cm **5** mm
c) **66** cm **5** mm and **66** cm **5** mm

Reflect

Children should tick: **60 cm × 3 = 180 cm** and **3 m × 3 = 9 m**.

My journal

→ page 80–81

1. Reena and Danny = 263 cm 5 mm
Ambika = 134 cm 2 mm

The combined height of **Richard** and **Ambika** is greater than the combined height of **Reena** and **Danny**.

2. No, Bo is incorrect. Children should explain that the original sheet of paper has a perimeter of 100 cm. If Bo was correct, the perimeter once cut in half would be 50 cm. But the new perimeter of the piece of paper still has four sides:
15 cm + 15 cm + 20 cm + 20 cm = 70 cm.

Power play

→ page 82

Possible answers need to total 36 cm. For example:

Length of rectangle	Width of rectangle
10 cm	8 cm
12 cm	6 cm
15 cm	3 cm
12 cm 5 mm	5 cm 5 mm

Children should draw sensible rectangles for each set of measurements.

Unit 8 – Fractions (I)

I Understand the denominator of unit fractions

→ pages 83–85

1. Children should circle:
a) $\frac{1}{3}$
b) $\frac{1}{5}$
c) $\frac{1}{4}$
d) $\frac{1}{6}$

2. Children should circle:
a) $\frac{1}{3}$
b) $\frac{1}{10}$

3. Children should shade:
a) **1 part** of each picture to make $\frac{1}{3}$.
b) **1 part** of each picture to make $\frac{1}{8}$.

4. Children should circle these fractions: $\frac{1}{2}$, $\frac{1}{5}$, $\frac{1}{3}$, $\frac{1}{9}$.

5. Children should shade **1 part** of each picture to make $\frac{1}{4}$.

6. Annie is correct about the first picture which shows $\frac{1}{4}$ shaded. But the shaded part of the second picture is not $\frac{1}{4}$ because the picture is not divided into four equal parts.

7. Children should shade $\frac{\mathbf{1}}{\mathbf{2}}$ **of one part** to make $\frac{1}{10}$.

Reflect

Children's answers will vary depending on what they have learnt.

2 Compare and order unit fractions

→ pages 86–88

1. Children should tick:
a) $\frac{\mathbf{1}}{\mathbf{3}}$ because it is greater than $\frac{1}{4}$
b) $\frac{\mathbf{1}}{\mathbf{5}}$ because it is greater than $\frac{1}{8}$.

2. Children should tick:
a) $\frac{\mathbf{1}}{\mathbf{5}}$ because it is smaller than $\frac{1}{2}$
b) $\frac{\mathbf{1}}{\mathbf{6}}$ because it is smaller than $\frac{1}{3}$.

3. a) $\frac{1}{5}$ is **less than** $\frac{1}{3}$.
b) $\frac{1}{5}$ is **less than** $\frac{1}{4}$.
c) $\frac{1}{5}$ is **greater than** $\frac{1}{6}$.
d) $\frac{1}{5}$ is **greater than** $\frac{1}{10}$.

4. a) $\frac{\mathbf{1}}{\mathbf{4}} > \frac{1}{5}$
b) $\frac{1}{3} > \frac{1}{7}$
c) $\frac{\mathbf{1}}{\mathbf{2}} > \frac{1}{8}$
d) $\frac{1}{9} > \frac{1}{10}$
e) $\frac{1}{10} > \frac{1}{20}$
f) $\frac{1}{9} > \frac{1}{99}$

5. Children should circle: $\frac{1}{7}$, $\frac{1}{8}$, $\frac{1}{10}$.

6. a) Smallest to greatest: $\frac{1}{6}$, $\frac{1}{5}$, $\frac{1}{3}$.
b) Smallest to greatest: $\frac{1}{12}$, $\frac{1}{8}$, $\frac{1}{5}$, $\frac{1}{2}$.

Reflect

Children should draw fraction strips or shapes to show that $\frac{1}{3}$ shaded is less than $\frac{1}{2}$ shaded.

3 Understand the numerator of non-unit fractions

→ pages 89–91

1. a) $\frac{1}{5}$
b) $\frac{2}{5}$
c) $\frac{4}{5}$
d) $\frac{4}{5}$

2. a) $\frac{3}{7}$
b) $\frac{3}{8}$

3. a) $\frac{3}{4}$
b) $\frac{4}{5}$
c) $\frac{3}{6} = \frac{1}{2}$
d) $\frac{2}{9}$

4. Children should shade:
a) **2** of the 8 parts
b) **5** of the 8 parts.

5. Children should disagree because they should recognise that the shape has not been divided into three equal parts.

6. Children should shade:
a) **3** of the 4 apples
b) **3** of the 5 trees
c) **8** of the 10 cats.

7. a) $\frac{\mathbf{2}}{\mathbf{7}}$ of the objects have wheels.
b) $\frac{\mathbf{3}}{\mathbf{7}}$ of the objects have four legs.
c) $\frac{\mathbf{3}}{\mathbf{7}}$ of the objects are animals.

Reflect

Children's answers will vary but might include drawing fraction strips, shapes or a group of objects with $\frac{2}{3}$ shaded or circled.

4 Understand the whole

➜ pages 92–94

1. a) $\frac{2}{5} + \mathbf{\frac{3}{5}} = 1$
b) $\frac{2}{6} + \mathbf{\frac{4}{6}} = 1$
c) $\frac{5}{8} + \mathbf{\frac{3}{8}} = 1$
d) $\mathbf{\frac{7}{10}} + \frac{3}{10} = 1$

2. a) $\frac{2}{3} + \mathbf{\frac{1}{3}} = 1$
b) $\frac{6}{7} + \mathbf{\frac{1}{7}} = 1$
c) $\frac{4}{7} + \mathbf{\frac{3}{7}} = 1$
d) $\frac{1}{8} + \mathbf{\frac{7}{8}} = 1$
e) $\frac{5}{10} + \mathbf{\frac{5}{10}} = 1$
f) $\mathbf{\frac{4}{10}} + \frac{6}{10} = 1$

3. a) $\mathbf{\frac{1}{5}}$ of the water bottle is empty.
b) Aki still has $\mathbf{\frac{5}{6}}$ of the race left to run.

4. Children's answers will vary but should include: $\mathbf{\frac{4}{9}} + \mathbf{\frac{5}{9}} = 1$, $\mathbf{\frac{3}{9}} + \mathbf{\frac{6}{9}} = 1$, $\mathbf{\frac{2}{9}} + \mathbf{\frac{7}{9}} = 1$ and $\mathbf{\frac{1}{9}} + \mathbf{\frac{8}{9}} = 1$.

5. The denominators have been added together when they should not have been. Only the numerators should be added together when two fractions have the same denominator. The correct answer is $\frac{2}{3} + \frac{1}{3} = \mathbf{\frac{3}{3}} = 1$.

6. Children's answers will vary but might include: 1 whole cake = $\frac{3}{6} + \frac{3}{6}$, 1 whole cake = $\frac{2}{6} + \frac{4}{6}$ or 1 whole cake = $\frac{1}{6} + \frac{5}{6}$.

Reflect

Children's answers will vary depending on children's understanding of the lesson.

5 Compare and order non-unit fractions

➜ pages 95–97

1. Children should circle:
a) $\mathbf{\frac{4}{5}}$ because it is greater than $\frac{2}{5}$.
b) $\mathbf{\frac{3}{6}}$ because it is greater than $\frac{2}{6}$.

2. Children should circle:
a) $\mathbf{\frac{3}{10}}$ because it is smaller than $\frac{8}{10}$.
b) $\mathbf{\frac{5}{8}}$ because it is smaller than $\frac{7}{8}$.

3. a) $\frac{1}{7}$ is **less than** $\frac{4}{7}$.
b) $\frac{4}{5}$ is **greater than** $\frac{1}{5}$.
c) $\frac{7}{9}$ is **greater than** $\frac{5}{9}$.
d) $\frac{5}{6}$ is **less than** 1 whole.
e) $\frac{7}{10}$ is **greater than** $\frac{4}{10}$.

4. a) $\frac{3}{4} > \frac{2}{4}$
b) $\frac{4}{6} < \frac{5}{6}$
c) $\frac{6}{9} > \frac{4}{9}$
d) $\frac{3}{10} < \frac{7}{10}$
e) $\frac{11}{12} > \frac{7}{12}$
f) $\frac{4}{5} < 1$

5. a) Smallest to greatest: $\frac{3}{9}, \frac{4}{9}, \frac{6}{9}$.
b) Smallest to greatest: $\frac{1}{8}, \frac{5}{8}, \frac{6}{8}, \frac{7}{8}$.

6. a) Numerators could be 1, 2, 3 or 4: $\frac{5}{9} > \mathbf{\frac{1}{9}}, \mathbf{\frac{2}{9}}, \mathbf{\frac{3}{9}}$ and $\mathbf{\frac{4}{9}}$.
b) Numerators could be 3, 4, 5 or 6: $\frac{2}{6} < \mathbf{\frac{3}{6}}, \mathbf{\frac{4}{6}}, \mathbf{\frac{5}{6}}$ and $\mathbf{\frac{6}{6}}$.

7. Children should shade 5 of the 6 parts of the first fraction strip and 5 of the 8 parts of the second fraction strip to show $\frac{5}{6} > 5{\cdot}8$.

Reflect

The circle must be larger than the triangle because the denominator is the same for both fractions.

6 Divisions on a number line

➜ pages 98–100

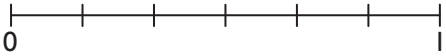
1. a) The number line goes up in $\frac{1}{3}$s. $\mathbf{\frac{1}{3}}$ and $\mathbf{\frac{2}{3}}$ are missing.
b) The number line goes up in $\frac{1}{4}$s.
$\mathbf{\frac{1}{4}}, \mathbf{\frac{2}{4}}$ and $\mathbf{\frac{3}{4}}$ are missing.
c) The number line goes up in $\frac{1}{5}$s.
$\mathbf{\frac{1}{5}}, \mathbf{\frac{2}{5}}, \mathbf{\frac{3}{5}}$ and $\mathbf{\frac{4}{5}}$ are missing.

2. a) $\frac{1}{6}, \frac{2}{6}, \frac{3}{6}, \frac{4}{6}, \frac{5}{6}$
b) $\frac{1}{10}, \frac{2}{10}, \frac{3}{10}, \frac{4}{10}, \frac{5}{10}, \frac{6}{10}, \frac{7}{10}, \frac{8}{10}, \frac{9}{10}$

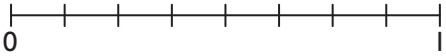
3. a) $\mathbf{\frac{1}{3}}$ of the jug is full.
b) $\mathbf{\frac{2}{3}}$ of the jug is full.
c) $\mathbf{\frac{1}{4}}$ of the jug is full.
d) $\mathbf{\frac{3}{4}}$ of the jug is full.

4. a) Yes, the number line is divided into four equal sections, so it goes up in $\frac{1}{4}$s.
b) No, the number line is divided into four unequal divisions, so it does not go up in 1.4s.

5. a)



b)



Reflect

Children should discuss counting the number of intervals and looking at the start and end numbers to work out what fractions a number line goes up in.

7 Count in fractions on a number line

→ pages 101–103

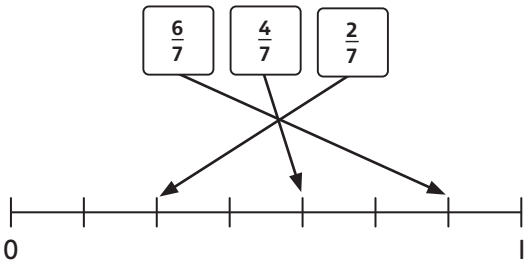
1. a) $\frac{2}{5}, \frac{3}{5}, \frac{4}{5}$

b) $\frac{2}{6}, \frac{3}{6}, \frac{4}{6}, \frac{5}{6}$

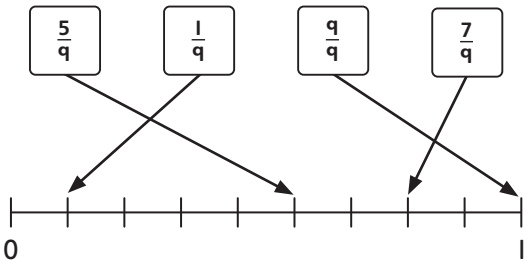
c) $\frac{1}{8}, \frac{2}{8}, \frac{3}{8}, \frac{4}{8}, \frac{5}{8}, \frac{6}{8}, \frac{7}{8}$

d) $\frac{1}{10}, \frac{2}{10}, \frac{3}{10}, \frac{4}{10}, \frac{5}{10}, \frac{6}{10}, \frac{7}{10}, \frac{8}{10}, \frac{9}{10}$

2. a)



b)



3. a) The arrows are pointing to $\frac{3}{4}$ and $\frac{4}{4}$.

b) The arrows are pointing to $\frac{2}{5}$ and $\frac{4}{5}$.

4. a) $\frac{3}{5}$ of the jug is full.

b) $\frac{5}{6}$ of the jug is full.

5. a)

b)

Reflect

Children should draw a number line divided into six equal parts.

8 Equivalent fractions as bar models

→ pages 104–106

1. a) $\frac{1}{4} = \frac{2}{8}$

b) $\frac{1}{6} = \frac{2}{12}$

c) $\frac{1}{3} = \frac{2}{6} = \frac{4}{12}$

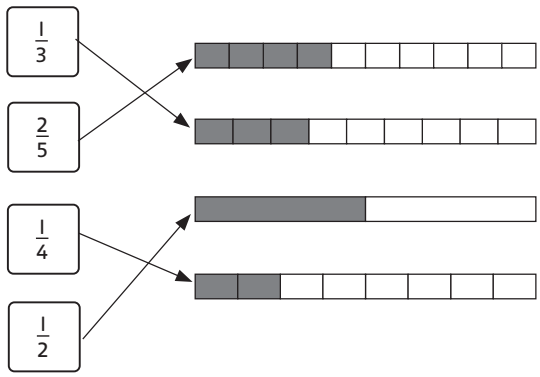
2. Children should shade the fractions on the corresponding fraction strips.

a) $\frac{2}{3} = \frac{6}{9}$

b) $\frac{3}{15} = \frac{1}{5}$

c) $\frac{3}{12} = \frac{2}{8}$ and $\frac{1}{4}$

3.



4. Children should shade 3 out of 4 parts of the first line, 6 out of 8 parts of the second line and 9 out of 12 parts of the third line.

$\frac{6}{8} = \frac{9}{12} = \frac{3}{4}$

5. Olivia is not correct. The first circle has not been divided into five equal parts so the shaded part does not show $\frac{2}{5}$. Children should draw their own shape divided into 5 equal parts to show that $\frac{2}{5}$ is greater than $\frac{1}{3}$.

Reflect

Children should explain folding paper into equivalent fractions, for example halves and quarters or thirds and sixths.

9 Equivalent fractions on a number line

→ pages 107–109

1. a) $\frac{1}{2} = \frac{2}{4}$

b) $\frac{1}{4} = \frac{2}{8}$

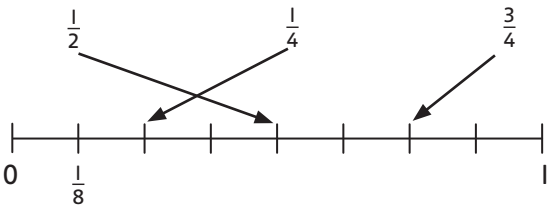
c) $\frac{3}{4} = \frac{6}{8}$

d) $\frac{1}{2} = \frac{4}{8}$

2. a) $\frac{1}{2} = \frac{\mathbf{5}}{10}$
b) $\frac{1}{5} = \frac{\mathbf{2}}{10}$
c) $\frac{2}{5} = \frac{\mathbf{4}}{10}$
d) $\frac{8}{10} = \frac{\mathbf{4}}{5}$

3. a) $\frac{1}{3} = \frac{\mathbf{2}}{6}$
b) $\frac{2}{\mathbf{3}} = \frac{4}{6}$
c) $\frac{1}{\mathbf{2}} = \frac{3}{\mathbf{6}}$
d) Children's answers will vary but should include three fraction that are not equivalent to $\frac{1}{3}$, for example, $\frac{1}{2}, \frac{1}{3}, \frac{2}{3}, \frac{3}{4}, \frac{2}{5}$.

4.



5. Children should label $\frac{1}{3}$ above $\frac{3}{9}$, $\frac{2}{3}$ above $\frac{6}{9}$ and $\frac{3}{3}$ above 1.

Children should circle: $\frac{1}{9}, \frac{2}{9}, \frac{4}{9}, \frac{5}{9}, \frac{6}{9}, \frac{7}{9}$ and $\frac{8}{9}$.

6. $\frac{2}{2}$ and $\frac{7}{7}$ are equivalent fractions because they are both equal to 1.

Reflect

Children should explain positioning number lines so that the start and end markers are aligned and then looking for fractions that are directly above and below each other to find equivalent fractions.

10 Equivalent fractions

➜ pages 110–112

1. a) $\frac{1}{8} = \frac{\mathbf{2}}{16}$
b) $\frac{4}{5} = \frac{\mathbf{8}}{10}$
c) $\frac{\mathbf{3}}{\mathbf{4}} = \frac{\mathbf{9}}{12}$
d) $\frac{\mathbf{3}}{4} = \frac{12}{16}$

2. a) $\frac{2}{3} = \frac{8}{12}$ because $\frac{8}{12}$ can be simplified to $\frac{2}{3}$ by dividing by 4 or because both the denominator and the numerator in $\frac{2}{3}$ can be multiplied by 4 to give $\frac{8}{12}$.
b) $\frac{2}{5}$ does not equal $\frac{4}{15}$ because the numerator of $\frac{4}{15}$ is 2 times as large as the numerator of $\frac{2}{5}$ but the denominator of $\frac{4}{15}$ is 3 times as large as the denominator of $\frac{2}{5}$. The numerator and denominator of $\frac{2}{5}$ would have to be multiplied by the same number to give an equal fraction.

3. a) $\frac{6}{10} = \frac{\mathbf{12}}{20}$
b) $\frac{3}{4} = \frac{\mathbf{12}}{16}$
c) $\frac{8}{12} = \frac{\mathbf{4}}{6}$
d) $\frac{\mathbf{4}}{8} = \frac{1}{2}$
e) $\frac{5}{11} = \frac{30}{\mathbf{66}}$
f) $\frac{5}{\mathbf{15}} = \frac{1}{3}$
g) $\frac{\mathbf{4}}{32} = \frac{1}{8}$
h) $\frac{\mathbf{12}}{36} = \frac{3}{9}$
i) $\frac{5}{7} = \frac{\mathbf{20}}{28}$

4. $\frac{3}{4} = \frac{27}{36}, \frac{30}{40}$ and $\frac{33}{44}$.

5. Emma is not correct because you need to multiply or divide the fraction to get an equivalent fraction. $\frac{1}{2}$ is smaller than $\frac{2}{3}$.

Reflect

$\frac{4}{10}$ is equivalent to $\frac{2}{5}$ because if you divide the numerator and denominator of $\frac{4}{10}$ by 2 you will get $\frac{2}{5}$.

My journal

➜ page 113

The value of the circle must be smaller than the value of the square because the numerators are equal but the first fraction is smaller than the second.

The value of the triangle must be greater than the value of the pentagon because the denominators are equal but the first fraction is greater than the second.

Power puzzle

➜ page 114

Children should shade in the grids. The grids will look different depending on how the children have shaded them but each should be different.

Unit 9 – Mass

1 Use scales

→ pages 115–117

1. a) 10, 20, 30, 40, 50, 60, 70, 80, 90
b) 20, 40, 60, 80
c) 25, 50, 75

2. Emma is not correct. The number line shows 5 intervals between 0 and 1,000, so it goes up in 200s.

3. a) 100, 200, 300, 400, 500, 600, 700, 800, 900
b) 250, 500, 750

4. Children should label the scales clockwise from 0: 100 g, 200 g, 300 g, 400 g, 500 g, 600 g, 700 g, 800 g, 900 g.

5. a) The arrows are pointing to 50, 250 and 475. This number line goes up in steps of **50.**
b) The arrows are pointing to 40, 120 and 170. This number line goes up in steps of **20.**
c) The arrows are pointing to 100 and 450. This number line goes up in steps of **100.**

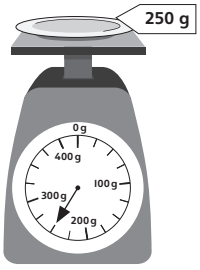
Reflect

To work out what a number line goes up in, I will look at the start and end number, count the intervals and check that the scale works by counting up in that interval.

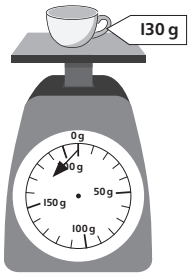
2 Measure mass

→ pages 118–120

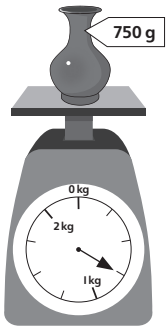
1. a)



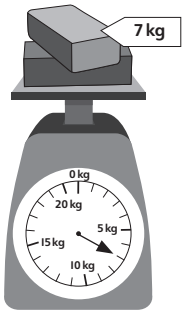
b)



c)



d)



2. a) **200** g
b) **350** g
c) **950** g
d) **8** kg

3. Children should not agree with Andy.
The scale goes up in intervals of 50 g.
The arrow is pointing half-way between 200 g and 400 g so is pointing at 300 g.

4. Banana: g Person: kg
Car: kg Mouse: g

5. The second object could weigh more because the first scale could measure grams and the second scale could measure kilograms.
2 kg > 600 g

Reflect

Children's answers will vary. For example:

Grams: pen, book, empty lunchbox.

Kilograms: chair, table, full rucksack.

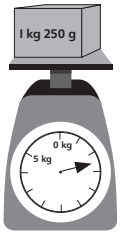
3 Measure mass in kilograms and grams

→ pages 121–123

1. a) **1** kg **500** g
b) **2** kg **500** g
c) **3** kg **500** g
d) **2** kg **750** g

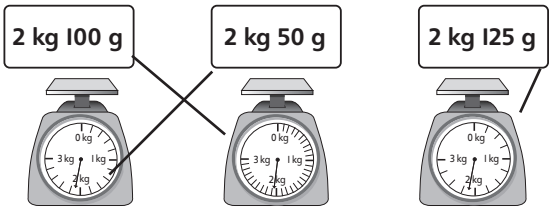
2. a)

b)



3. a) **0** kg **800** g
b) **1** kg **300** g
c) **1** kg **850** g
d) **1** kg **600** g

4.



5. a) **5** kg **500** g
b) **1** kg **390** g approx.
c) **3** kg **380** g approx.

Reflect

Children's responses will vary depending on which scales they found most challenging to read.

4 Equivalent masses

→ pages 124–126

1. a) Parts: **2** kg and **300** g
b) Whole: **1 kg 20 g**
c) Whole: **3 kg 246 g**
d) Parts: **2** kg and **2** g

2. 1 kg = **1,000 g**
$\frac{1}{2}$ kg = **500 g**
$\frac{1}{4}$ kg = **250** g

3. a) Children should circle 2 × 1 kg + 6 × 100 g (2 × 50 g could replace 100 g).
b) Children should circle 3 × 1 kg + 2 × 100 g (2 × 50 g could replace 100 g).

4. a) **1** kg **400** g
b) **1** kg **50** g
c) **2** kg **500** g

5. Lee is incorrect. Each interval is 100 g so the sugar weighs 1 kg 900 g.

6. There are various possible answers, for example:
2 kg + 500 g + 2 × 100 g + 5 × 10 g
2 × 1 kg + 500 g + 2 × 100 + 5 × 10 g
2 kg + 7 × 100 + 5 × 10g
1 kg + 3 × 500 g + 2 × 100 g + 5 × 10 g

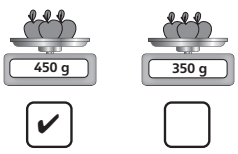
Reflect

Children should give examples of everyday items that are better measured in grams (mostly small, light) and items that are better measured in kg (mostly heavy, large).

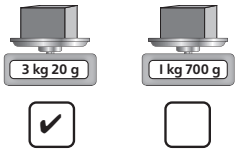
5 Compare mass

→ pages 127–129

1. a)

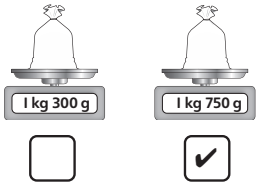


c)

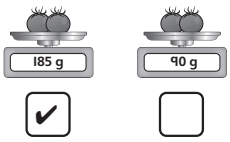


b)

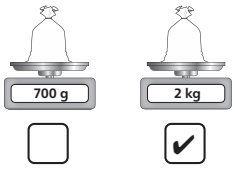
d)



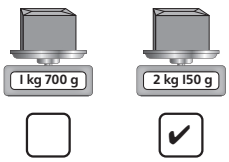
2. a)



c)



b)



3. a) 2 kg **>** 300 kg
b) 2 kg **>** 500 g
c) 2 kg 10 g **<** 2 kg 620 g
d) 883 g **<** 3 kg 180 g

4. Children should circle:

a)

b)

5. a) Lightest to heaviest: 1 kg 90 g, 1 kg 500 g, 1 kg 540 g, 2 kg.
b) Lightest to heaviest: 635 g, 1 kg 129 g, 2 kg 300 g, 3 kg 579 g.
c) Lightest to heaviest: 777 g, 1 kg 707 g, 1 kg 700 g, 777 kg.

6. There are many possible answers.
B is less than 1 kg 20 and D is less than B.
C is more than 1 kg 20 g.
Here are some possible solutions:

B = 1 kg 10 g	C = 1 kg 30 g	D = 1 kg
B = 1 kg	C = 1 kg 100 g	D = 900 g

Reflect

Children should explain that:

2 kg > 1 kg

Or, 2 kg = 2,000 g and 1 kg 265 g = 1, 265 g

2,000 g > 1, 265 g

6 Add and subtract mass

→ pages 130–132

1. a) The total mass is **630** g.
b) The total mass is **3 kg 560 g**.
c) The total mass is **2 kg 568 g**.
d) The total mass is **4 kg 800 g**.

2. a) **800** g
b) **10** kg

3. a) 1 kg 800 g
b) 400 g
c) 550 g and 550 g
d) 1 kg 440 g

4. a) 5 kg 700 g – 1 kg 380 g = **4** kg **320** g
b) 3 kg 700 g – 356 g = **3** kg **344** g

5. a) 300 g + **900 g** = 1 kg 200 g
b) **550 g** + 1 kg 300 g = 1 kg 850 g
c) 1 kg 100 g – **1 kg 80 g** = 20 g
d) **2 kg 710 g** – 1 kg 310 g = 1 kg 400 g

Reflect

To add measures with mixed units, I **add the kg and g separately or convert g to kg or kg to g**.

7 Problem solving – mass

➜ pages 133–135

1. a) Alex has **150 g** left.
b) They have **798 g** altogether.
c) They buy **600 g** in total.

2. The nuts weigh **440** g.

3. The middle guinea pig weighs **700** g.

4. The mass of the heart is **1,225 g** or **1 kg 225 g**.

Reflect

Children should write a question involving the answer 550 g. It could involve addition or subtraction.
For example:

Finn has a 1 kg bag of flour, he uses 450 g. How much does he have left?

Ruben makes 6 cakes using 225 g of flour. How much flour is needed to make 12 cakes?

My journal

➜ page 136

Children's answers will depend on the objects they choose.

Power puzzle

➜ page 137

Children should explain:

Melon + pineapple = 1 kg 300 g = 1,300 g

Pineapple = 755 g

Melon = 1,300 g – 755 g = 545 g

Unit 10 – Capacity

1 Measure capacity and volume in litres and millilitres

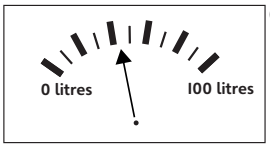
➜ pages 138–140

1. a) **3,500** ml d) **150** ML
b) **70** ml e) **450** ml
c) **550** ml f) approximately **975** ml

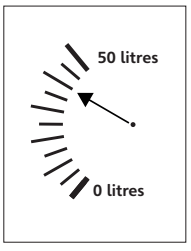
2. Children should suggest the following measures:
a) litres
b millilitres
c) litres or millilitres

3. a) 15 l
b) 180 ml
c) 36 l

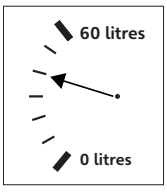
4. a)



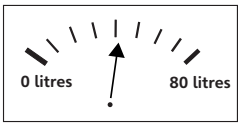
c)



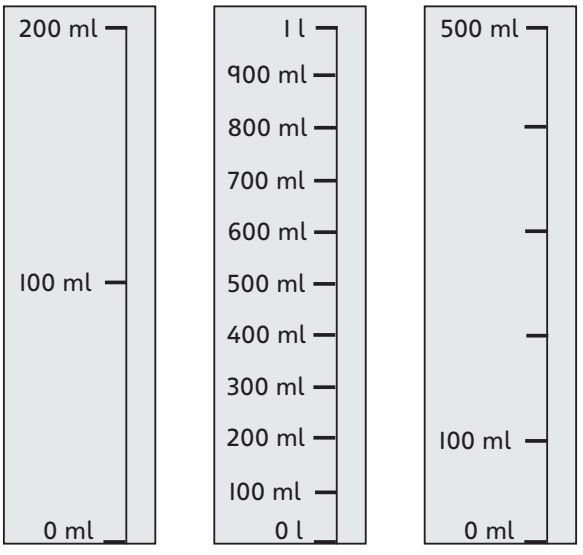
b)



d)



5.



Reflect

To work out how much liquid is in a measuring jug, I need to **read the scale accurately to work out what each interval is worth and count the intervals**.

2 Measure in litres and millilitres

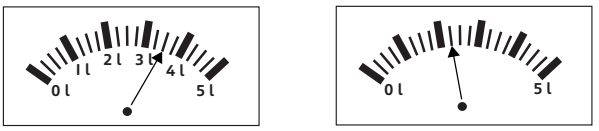
➜ pages 141–143

1. a) **1** l **700** ml d) **1** litre **0** ml
b) **1** l **500** ml e) **1** l **900** ml
c) **0** l **500** ml f) **1** l **200** ml

2.

1 l 500 ml | 1 l 200 ml | 3 l 500 ml

3.



3 l 500 ml | 2 l 250 ml

4. Jug **B** was used

5. I think **1** litre **100** ml – **1** litre **200** ml is a good estimate because **it is just over the half-way mark, which is 1 litre.**

Reflect

Children should draw scales to show 0 – 1 litre in five intervals of 200 ml and four intervals of 250 ml.

3 Equivalent capacities and volumes (litres and millilitres)

➜ pages 144–146

1. a) $\frac{1}{2}$ litre = **500** ml

b)

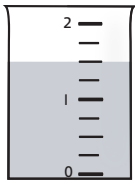
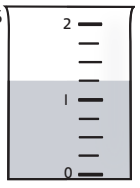
1,000 ml			
250 ml	**250** ml	**250** ml	**250** ml

$\frac{1}{4}$ l = **250** ml

2. Children should draw a bar model with 10 equal sections, each marked 100 ml.
$\frac{1}{10}$ of 1 litre = **100 ml**

3. a) **Ten** 100 ml glasses can be poured from the milk carton.
b) **Twenty** 50 ml glasses can be poured from the milk carton.

4. a) **1** l **600** ml
b) **0** l **600** ml

5. a) $1\frac{1}{2}$ litres  b) $1\frac{1}{4}$ litres 

6. **600 ml** of tomato juice is needed for the recipe.

Reflect

Children's answers will vary but should include:
½ l = 500 ml, $\frac{1}{4}$ l = 250 ml, $\frac{3}{4}$ l = 750 ml, $\frac{1}{10}$ l = 100 ml and $\frac{1}{5}$ l = 200 ml.

4 Compare capacity and volume

➜ pages 147–149

1. Children should circle:
a) 750 ml
b) 3 l
c) 1 l 650 ml
d) 1 l
e) 3 l 700 ml
f) 2 l

2. Smallest to greatest: 100 ml, 2 l, 25 l.

3. Smallest to greatest: 850 ml, 1 l 500 ml, 1 l 950 ml, 2 l 200 ml.

4. Smallest to greatest: 500 ml, 1 l 200 ml, 1 l 400 ml, 1 l 500 ml.

5. Jessica should choose bowl **C**.

6. Container **A** has more liquid in it because both containers are full, but A has a greater capacity.
2 litres = 2,000 ml, 1 l 500 ml = 1,500 ml, 2,000 > 1,500.

Reflect

Children should explain that 1 litre = 1,000 ml and 1,000 > 750 ml.

5 Add and subtract capacity and volume

➜ pages 150–152

1. a) 750 ml
b) 733 ml
c) 5 l 675 ml

2. **730 ml** is left in the bottle.

3. **3 l 350 ml** will be left in the large container.

4 James has **1 l 500 ml** or **1,500 ml** in total.

5. There is **550 ml** in cylinder C.

Reflect

Children could suggest converting 2 l 800 ml to 2,800 ml.
2,800 + 1,250 = 4,050 ml = 4 l 50 ml

6 Problem solving – capacity

➜ pages 153–155

1. Paolo bought **800** ml of water altogether.

2. Each smaller bucket holds **4,000** l of water

3. Frederica has **30** l of fuel left.

4. The total is **750** ml.

5. Alfredo needs to drink **8** glasses.
Jen needs to drink **10** glasses.

6. He needs **650** ml more cream.

7. a) You will need **3** l **500** ml.
b) You will need **10** l **500** ml.

Reflect

Children's answers will depend on which question they choose but they should explain working out each step.

My journal

➜ page 156

1 a) Children should complete the bar model with 250 ml in each section.
$\frac{1}{4}$ litre in ml = **250** ml

b) Children should complete the bar model with 250 ml in each section.
$\frac{3}{4}$ of a litre = **750** ml

c) Children should complete the bar model with 100 ml in each section
$\frac{4}{5}$ of $\frac{1}{2}$ litre = **400** ml

Power play

➜ page 157

Children should play the game until someone reaches 4 l (adding) or 1 l (subtracting).