



Unit 1 – Place value within 1,000

I Represent and partition numbers to 100

→ pages 8–11

Discover

- Children make the number 36 from base 10 equipment. Emma has made the number 36.
 - Andy has made the number 46.

Think together

- 52
- 75
 - 28
- 30 and 5
 - The digit 6 represents tens, not 6 ones, so should be 60.

2 Number line to 100

→ pages 12–15

Discover

- Runner B has run 50 m, runner C has run 70 m.
 - Runner D has run 25 m.

Think together

- A = 30 m B = 75 m C = 90 m
- A = 42 B = 45 C = 47
- Children should point to the larger, bolder markers labelled 10, 20 and so on for the tens, and to the lighter, shorter markers in between the tens for the ones.
 - Children should point to the following:
 25 – the longer marker half-way between 20 and 30
 57 – the third short marker before 60
 92 – the second short marker after 90

3 100s

→ pages 16–19

Discover

- 300 dice
 - 600 counters

Think together

- 400, four hundred
500, five hundred
600, six hundred
700, seven hundred
800, eight hundred

- 400, 500
 - 300, 100
 - 500, 700, 900
- There are 1,000 marbles.
There are one thousand marbles.

4 Represent numbers to 1,000

→ pages 20–23

Discover

- 215 bulbs
 - Children make 215 using base 10 equipment, using 2 hundreds, 1 ten and 5 ones.

Think together

- 743
- 526
 - 246
- Answers depend on the way the digits are arranged:
 347: 3 hundreds, 4 tens and 7 ones
 300 40 7
 374: 3 hundreds, 7 tens and 4 ones
 300 70 4
 437: 4 hundreds, 3 tens and 7 ones
 400 30 7
 473: 4 hundreds, 7 tens and 3 ones
 400 70 3
 743: 7 hundreds, 4 tens and 3 ones
 700 40 3
 734: 7 hundreds, 3 tens and 4 ones
 700 30 4

5 Partition numbers to 1,000

→ pages 24–27

Discover

- Children make 235 using base 10 equipment, using 2 hundreds, 3 tens and 5 ones.
 - $235 = 200, 30$ and 5

Think together

- Children make 251 using base 10 equipment, using 2 hundreds, 5 tens and 1 one.
 - 251 as the whole in the top circle
200, 50 and 1 as the parts.
- 364 as the whole in the top circle
300, 60 and 4 as the parts.
 - 137 as the whole in the top circle
100, 30 and 7 as the parts.
- 615: 615 as whole, 600, 10 and 5 as the parts.
 $600 + 10 + 5$
 293: 293 as whole, 200, 90 and 3 as the parts.
 $200 + 90 + 3$
 304: 304 as whole, 300, 0 and 4 as the parts.
 $300 + 4$
 340: 340 as the whole, 300, 40 and 0 as the parts.
 $300 + 40$



6 Partition numbers to 1,000 flexibly

→ pages 28–31

Discover

- Lexi has made 262. 262 is the whole, 200, 60 and 2 are the parts.
 - Various answers with a total of 262 are possible, e.g. 100, 160 and 2 or 200, 40 and 22.

Think together

- Each model has 354 as the whole with:
 - 200, 150, 4 as the parts
 - 100, 250, 4 as the parts
 - 200, 140, 14 as the parts
- 420
 - 320
 - 220
 - 420
 - 120
 - 16
 - 310
- 357

7 100s, 10s and 1s

→ pages 32–35

Discover

- Children make 425 using base 10 equipment, using 4 hundreds, 2 tens and 5 ones.
 - Children make 425 using place value counters, using 4 hundreds, 2 tens and 5 ones.

Think together

	H	T	O
	1 1	1 1 1	1 1 1 1 1
	2	3	6

- 2 hundreds, 3 tens, 6 ones
- 135
 - 308
 - Children should use the following counters:
 - 6 hundreds, 2 tens, 7 ones
 - 1 hundreds, 4 tens, 3 ones
 - 1 hundred, 5 tens
 - 8 tens, 5 ones
 - 627 ($600 + 20 + 7$)

8 Use a number line to 1,000

→ pages 36–39

- Boat A has travelled 300 metres.
Boat B has travelled 600 metres.
Boat C has travelled approximately 750 metres.
 - Point to 900 metres for Boat D.

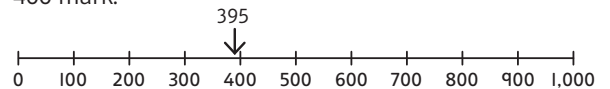
- 100, 200, 500, 700, 900
 - Boat A has travelled 100 metres.
 - Boat C has travelled 800 metres.
 - Boat B has travelled about 450 metres.
- 100, 550, 800
 - Children point to 300, 500 and 990.
- 270, 271, 272, 274, 275, 276, 277, 278, 279, 210, 220, 230, 240, 260, 270, 280, 290, 300
 - Children point to 275 on each line.

9 Estimate on a number line to 1,000

→ pages 40–43

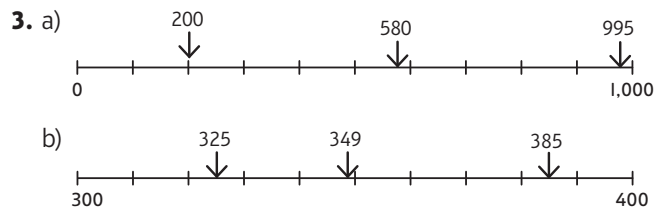
Discover

- You can peg 500 to lines A and C.
 - The intervals are 100, so 395 is just before the 400 mark.



Think together

- 220, 222, 250 and 275
- 650
 - 278 or 279
 - 519



10 Find 1, 10 and 100 more or less

→ pages 44–47

Discover

- Amal has 253 points.
Amal adds 100 points, so he now has 353.
 - Holly now has 203 points.

Think together

- 375
 - 548
 - 249
- 663
 - 463
 - 238
 - 218
 - 719
 - 717



3. a) 205
 b) Ebo has worked out 100 more than 457, rather than 100 less.
 457 is 100 more than 357.

II Compare numbers to 1,000

→ pages 48–51

Discover

1. a) 395 is the greater number.
 b) 542 is the smaller number.

Think together

1. a) 542
 b) 92
2. a) $948 > 820$
 b) $385 > 368$
 c) $600 < 950$
 d) $392 = 300 + 90 + 2$
3. a) 0, 1, 2 or 3
 b) 1, 2, 3 or 4
 c) 1, 2 or 3

I2 Order numbers to 1,000

→ pages 52–55

Discover

1. a) The Empire State Building is taller than Big Ben.
 b) Big Ben, Eiffel Tower, Empire State Building, Shanghai Tower, Burj Khalifa

Think together

1. Ferry, Cruise ship, Container ship
2. B, D, A, C
3. a) 188, 276, 300, 712
 b) There are many solutions, e.g. Any number between 0 and 9; 9; 2; any number between 0 and 9.

I3 Count in 50s

→ pages 56–59

Discover

1. a) There are 50 stars on each flag.
 There are 200 stars on 4 flags.
 b) Sylvie counted 350 stars on 7 flags.

Think together

1. 150, 200, 250, 300, 350, 400, 450, 500
2. a) There are 750 stars on 15 flags.
 b) There are 800 stars on the 16 flags.
 c) There are 850 stars on 17 flags.
3. 750, 650, 400, 50, 250
 The last two digits are either 50 or 00.

End of unit check

→ pages 60–61

1. B 352
 2. C
 3. D 375
 4. C
 5. C
 6. D
 7. Y, X, Z



Unit 2 – Addition and subtraction (I)

I Use known number bonds

→ pages 64–67

Discover

- There are 300 bricks on the ground.
There are 400 bricks on the lorry.
 - There are 700 bricks in total.

Think together

- 5 ones
 - 5 hundreds
 - 6 ones
 - 6 hundreds
- 8, 800
 - 6, 600
 - 2, 200
 - 5, 500
- $700 + 200 = 900$
 $900 = 700 + 200$
 $900 = 200 + 700$
 $900 - 700 = 200$
 $200 = 900 - 700$
 $700 = 900 - 200$

2 Add/subtract 1s

→ pages 68–71

Discover

- $245 + 4 = 249$
 - 248 are left.

Think together

- 312
 - 297
- 355
 - 356
 - 357
 - 358
 - 359
 - 715
 - 245
 - 175
 - 435
 - 905
- $430 + 5, 431 + 4, 432 + 3, 433 + 2, 434 + 1, 435 + 0$
 - $439 - 4, 438 - 3, 437 - 2, 436 - 1, 435 - 0$

3 Add/subtract 10s

→ pages 72–75

Discover

- 351: 3 hundreds, 5 tens, 1 one
 - 381: **351** + **30**

Think together

- 385
 - 553

- $8 \text{ tens} - 5 \text{ tens} = 3 \text{ tens}$
 $582 - 50 = 532$

- | | | |
|---------|-----|---------|
| A = 411 | | B = 491 |
| b) 484 | 184 | 270 |
| 515 | 392 | 910 |

4 Add/subtract 100s

→ pages 76–79

Discover

- 820
 - 400

Think together

- 568
 - 717
- 429
- 635
 - 835
 - 935
 - 435
 - 135

Only the hundreds digit changed each time.

5 Spot the pattern

→ pages 80–83

Discover

- 156, 174, 354
 - 597

Think together

- 326
 - 371
 - 821
- 543
 - 516
 - 246
- $+ 6, + 700, - 50$
 - $2, - 200$
 - $20, - 2$
 - $200, - 20$

6 Add 1s across 10

→ pages 84–87

Discover

- $571 + 3 = 574$
 - $135 + 7 = 142$

Think together

- 321
 - 153



2. a) $248 + 6 = 254$
The 10s digit changes from 4 tens to 5 tens.
- b) $842 + 6 = 848$
The 10s digit does not change.
- c) $217 + 9 = 226$
The 10s digit changes from 1 ten to 2 tens.
- d) $324 + 6 = 330$
The 10s digit changes from 2 tens to 3 tens.
3. a) Possible answers are:
 $442 + 9, 443 + 8, 444 + 7, 445 + 6, 446 + 5,$
 $447 + 4, 448 + 3, 449 + 2$
- b) The hundreds digit will only change if the tens digit is 9 and the ones digits add to 10 or more.
 $299 + 1 = 300, 198 + 4 = 202$ are examples where this happens.

7 Add 10s across 100

→ pages 88–91

Discover

1. a) $184 + 10 = 194$
The birch tree is 194 years old.
- b) $184 + 20 = 204$
The horse chestnut tree is 204 years old.

Think together

1. $184 + 50 = 234$
The oak tree is 234 years old.
2. $263 + 70 = 333$
3. Mia will need to do an exchange for c) and d)
 - a) $458 + 20 = 478$ c) $458 + 60 = 518$
 - b) $458 + 30 = 488$ d) $458 + 80 = 538$

8 Subtract 1s across 10

→ pages 92–95

Discover

1. a) $151 - 7 = 144$
- b) Number line showing jump of 1 back from 151 to 150, and another jump back from 150 to 144.

Think together

1. $144 - 8 = 136$
2. a) $143 - 2 = 141$
- b) $143 - 5 = 138$
- c) $143 - 7 = 136$
- d) $143 - 8 = 135$
3. a) 7
- b) $250 - 7 = 243$
 $205 - 7 = 198$
Max could use a number line, or a place value grid, or base 10 equipment.

9 Subtract 10s across 100

→ pages 96–99

Discover

1. a) $210 \text{ m} - 20 \text{ m} = 190 \text{ m}$
190 m are left.
- b) $190 \text{ m} - 140 \text{ m} = 50 \text{ m}$
Jen sold 50 m.

Think together

1. $335 - 50 = 285$
There is 285 m of space fabric left.
2. $213 - 80 = 133 \text{ m}$
Jen has 133 m of bee fabric more than Toshi.
3. a) Rani is solving $235 - 60$ using a part-whole model. She finds a different way of showing 235. She has exchanged 1 hundred for 10 tens:
 $235 = 100 + 130 + 5$
 $235 - 60 = 175$
- b) 12 tens – 4 tens = 8 tens
 $328 - 40 = 288$
12 tens – 5 tens = 7 tens
 $328 - 50 = 278$
12 tens – 70 tens = 5 tens
 $328 - 70 = 258$

10 Make connections

→ pages 100–103

Discover

1. a) $7 + 5 = 12$
- b) Using the basic fact $7 + 5 = 12$.
 $70 + 50 = 120$

Think together

1. a) $8 + 6 = 14$
- b) $80 + 60 = 140$
- c) The same addition fact, $8 + 6 = 14$, is used in both calculations.
The first addition is adding ones, the second addition is adding tens.
2. a) $11 - 6 = 5$
- b) $110 - 60 = 50$
3. $5 + 8 = 13$ $50 + 80 = 130$
 $80 + 50 = 130$ $130 - 80 = 50$



End of unit check

→ pages 104–105

1. B
2. D
3. C
4. C
5. C: $412 - 40$
6. $249 = 95 + 154$



Unit 3 – Addition and subtraction (2)

I Add two numbers

→ pages 108–111

Discover

- a) Children make 326 and 541 using base 10 equipment.
b) 867

Think together

- a) 498
b) 975
- a) 327
b) 957
c) 789
d) 883
- Various answers are possible, but the ones digits must add to 3, so must be 1 and 2; the hundreds and tens digits must both add to 9, so 4 and 5 or 6 and 3. If the hundreds digits are 3 and 6, then the tens digits will be 4 and 5, in any order. Examples include: $642 + 351$, $431 + 562$, $461 + 532$.

2 Subtract two numbers

→ pages 112–115

Discover

- a) 647
b) Isla could score 833, 383 or 338.

Think together

- 564
- $678 - 446 = 232$
 $678 - 464 = 214$
 $678 - 644 = 34$
Ebo could score 232, 214 or 34.
- Mo needs to subtract a number with an odd number in the ones column (so either 469 or 649).
Reena needs to subtract a number with the 9 in the hundreds column (so either 946 or 964).
Ambika needs to subtract a number with a 9 in the ones column (so either 469 or 649).
Andy needs to subtract a number with a digit less than 5 in the hundreds column and with an even number in the ones column (so 496).
Mo: 350 or 530
Reena: 35 or 53
Ambika: 350 or 530
Andy: 503

3 Add two numbers (across 10)

→ pages 116–119

Discover

- a) Children make the numbers 126 and 217 using base 10 equipment.
b) 343

Think together

- 441
- a) 595
b) 365
696
- a) $427 + 135 = 562$
b) $427 + 137 = 564$
 $427 + 138 = 565$

Multiple answers are possible, such as $427 + 135 = 562$ or $420 + 132 = 552$.

4 Add two numbers (across 10)

→ pages 120–123

Discover

- a) Children build the numbers 185 and 341 using place value counters or base 10 equipment in a place value grid.
b) 526

Think together

- a) 879
b) 427
c) 537
- Max is incorrect. The answer is 401.
The ones column adds to 11 so this ten is added to the tens column, $8 + 1 + 1 = 10$ tens = 1 hundred.

No exchange	1 exchange	2 exchanges
$253 + 123$	$253 + 174$	$253 + 279$
		$253 + 188$
		$253 + 149$

5 Subtract two numbers (across 10)

→ pages 124–127

Discover

- a) Children build 361 using base 10 equipment using 3 flats, 6 rods and 1 cube.
b) $361 - 147 = 214$
Aki has 214 steps left to climb.



Think together

1. 236
2. a) The ones digits have been subtracted in the wrong order: $341 - 235 = 106$.
b) The exchange has been made but the number of 10s has not been reduced: $583 - 255 = 238$.
3. a) Amelia knows an exchange will be needed as 2 in the top line is less than 7 being subtracted from it underneath.
b) $482 - 135 = 347$
 $482 - 136 = 346$
 $482 - 133 = 349$

6 Subtract two numbers (across 100)

→ pages 128–131

Discover

1. a) Children build 365 using place value counters. 3 hundreds, 6 tens and 5 ones counters.
b) 181

Think together

1. 374
2. a) 683 c) 653
b) 673 d) 643

The 100s digits and the 1s digits stay the same and there is always an exchange from the hundreds column to the tens column.

The 10s digit varies each time.

3. a) 276
Two exchanges are needed.
b) 178
First exchange 1 hundred for 10 tens, then exchange one of those tens for 10 ones.

7 Add a 3-digit and a 2-digit number

→ pages 132–135

Discover

1. a) $£275 + £16 = £291$
b) $£45 + £61 = £106$
The zebrafish and the clownfish cost £106 in total.

Think together

1. a) 183
b) 183
c) The answers are the same.
The number of 1s added is the same and the number of 10s added is the same.

2. Mark has forgotten to add in the extra hundred made from 5 tens + 7 tens = 12 tens = 1 hundred and 2 tens. The answer should be 226.

Poppy has added $4 + 7 = 11$ correctly, but has put 11 in the ones column instead of exchanging for 1 ten and 1 one. The answer should be 201.

3. There are 10 possible combinations.
 $338 + 83 = 383 + 38 = 421$ because both involve $38 + 83$, with 3 as the hundreds digit.
 $333 + 88$ and $388 + 33$ also = 421 as $33 + 88 = 38 + 83 = 121$, as addition can be done in any order.
 $883 + 33 = 833 + 83 = 916$ because $83 + 33 = 33 + 83$.
 $838 + 33 = 871 = 833 + 38 = 871$ because $33 + 38 = 38 + 33$.

The totals that are different involve adding two 3s or two 8s in either the 1s or 10s or both.

$338 + 38 = 376$, $383 + 83 = 466$

8 Subtract a 2-digit number from a 3-digit number

→ pages 136–139

Discover

1. a) Luis has subtracted the 1s in the wrong order.
b) $175 - 38 = 137$

Think together

1. a) 183
b) 308
c) 239
2. a) $271 - 43 = 228$
b) $271 - 85 = 186$
3. a) First, exchange 1 hundred for 10 tens, then one of those tens for 10 ones:
 $39^{15} - 7 = 398$
 $39^{15} - 17 = 388$
 $39^{15} - 217 = 188$
b) 42

9 Complements to 100

→ pages 140–143

Discover

1. a) $87 + 13 = 100$
Zac has to move 13 squares.
b) $51 + 49 = 100$
Emma has to move 49 squares.

Think together

1. 35
2. a) 72
b) 11



3. a) 38
b) 63
57
22

10 Estimate answers

→ pages 144–147

Discover

1. a) The bag with approximately 200 matchsticks.
b) $600 - 200 = 400$
Ebo should choose the bag with approximately 400 matchsticks.

Think together

1. Both numbers are nearer to 400.
 $400 + 400 = 800$
Dexter is correct.
2. $500 - 300 = 200$
Alex needs to check her calculation.
3. 407 g and 196 g
 $400 + 200 = 600$ g
 $400 - 200 = 200$ g

11 Inverse operations

→ pages 148–151

Discover

1. a) $270 + 255 = 525$
Max's subtraction is correct.
b) $427 + 332 = 759$
Ambika's subtraction is incorrect.
 $328 = 755 - 427$

Think together

1. a) $612 - 371 = 341$ is incorrect. This can be checked using the addition $341 + 371 = 712$.
b) The addition is incorrect.
 $812 - 344 = 486$, not 477.
 $812 - 477 = 335$, not 344.
2. a) Emma has exchanged 1 hundred for 10 ones, rather than 10 tens.
The ones column should be $11 - 9$, not $10 - 9$.
The tens column should have 0 replaced with 9.
The answer is 2.
b) You could count on from 499 to 501 or back from 501 to 499. Children may mention using a number line.
3. Using subtraction: $917 - 176 = 741$ and $917 - 741 = 176$, so the addition is correct.
Using approximation: $200 + 700 = 900$, so probably correct.

12 Problem solving (I)

→ pages 152–155

Discover

1. a) $£275 + £99 = £374$
Holly spent £374 in total.
b) $£275 + £100 = £375$

Think together

1. $£159 + £25 = £184$
2. $£468 - £349 = £119$
The child's bike cost £119.
3. a) $£275 + £25 + £50 = £350$
Various models may be shown.
b) $£399 - £50 = £349$
Toshi bought the tandem bike.
A bar model or a part-whole model would both work well here.

13 Problem solving (2)

→ pages 156–159

Discover

1. a) $454 - 128 = 326$
Team A has scored 326 more runs than Team B.
b) Team B has now scored 316 runs.
 $128 + 105 = 233$
 $233 + 83 = 316$

Think together

1. $317 - 451 = 134$
Isla's team scored 134 more runs.
2. $320 - (165 + 56) = 320 - 221 = 99$
Jamilla and Emma need 99 more runs.
3. Olivia scored $188 + 56 = 244$ runs.
 $244 + 188 = 432$ runs altogether.

End of unit check

→ pages 160–161

1. C
2. D
3. B
4. A
5. C
6. 675 cm



Unit 4 – Multiplication and division (I)

I Multiplication – equal groups

→ pages 164–167

Discover

- $2 + 2 + 2 + 2 = 8$
 $4 \times 2 = 8$
 - $3 \times 5 = 15$

Think together

- $3 \times 5 = 15$ or $5 \times 3 = 15$
- $3 \times 4 = 12$ or $4 \times 3 = 12$
- The towers do not all have the same number of cubes.
 - The cubes can be rearranged to show 4 equal groups of 4 cubes.

2 Use arrays

→ pages 168–171

Discover

- The array shows the multiplication $5 \times 4 = 20$ or $4 \times 5 = 20$.
 - The counters can be rearranged to show $2 \times 10 = 20$, $10 \times 2 = 20$, $1 \times 20 = 20$ or $20 \times 1 = 20$.

Think together

- $2 \times 6 = 12$ and $6 \times 2 = 12$
- $5 \times 10 = 50$ or $10 \times 5 = 50$
- There are 30 stars in total. The groups can be reversed: 6 groups of 5, 10 groups of 3 and 2 groups of 15 are possible. This could also be expressed as 30×1 or 1×30 .

3 Multiples of 2

→ pages 172–175

Discover

- 2, 4, 6, 8, 10, 12, 14, 16, 18, 20
 - Children will colour in every other column on the 100 square. They should notice that the multiples of 2 end with 0, 2, 4, 6 or 8.

Think together

- ..., 18, 20, 22, 24, 26, 28
..., 78, 80, 82, 84, 86, 88
- We only need to see the 1s digit. 87 is not a multiple of 2.
30, 56, 134 and 8 are multiples of 2 because they end in either 0, 2, 4, 6 or 8.

- 48, 74, 78, 84
 - 478, 748, 784, 874

4 Multiples of 5 and 10

→ pages 176–179

Discover

- The multiples of 10 are all in the last column and end in zero: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100.
 - The numbers covered with stars all come from the 5 times-table.

Think together

- 25, 30, 35, 40, 45, 50
 - 160, 170, 180, 190, 200, 210
 - 80, 75, 70, 65, 60, 55
- 50, 80, 85
 - 50, 80
 - 580 and 850 are the only 3-digit multiples of 10. So Lee is incorrect: Emma can make the same number of 2-digit and 3-digit multiples of 10.

	Multiple of 5	Not multiple of 5
Even numbers	70, 120, 300	158
Odd numbers	95	63

5 Share and group

→ pages 180–183

Discover

- 4
 - $20 \div 5 = 4$

Think together

- They each have 5 apples.
- $10 \div 2 = 5$; Danny needs 5 bags.
- $15 \div 3 = 5$
15 is the number of sweets;
3 is the number of children sharing the sweets;
5 is the number of sweets each child gets.

15		
5	5	5

- 15 is the number of sweets;
3 is the number of sweets he puts into each group;
5 is the number of groups of sweets.

15				
3	3	3	3	3



End of unit check

→ pages 184–185

1. C
2. B
3. D
4. D
5. D
6. 2
7. a) 538
b) 835
c) No, as there is no zero.



Unit 5 – Multiplication and division (2)

I Multiply by 3

→ pages 188–191

Discover

- a) There are 7 cups.
 There are 3 balls under each cup.
 $7 \times 3 = 21$
 There are 21 balls.
- $8 \times 3 = 24$

Think together

- $9 \times 3 = 27$
 There are 27 balls.
- $6 \times 3 = 18$
 There are 18 hats.
- The hats are shown as 3 by 5 and 5 by 3 arrays.
 The marbles are shown as 3 groups of 5 marbles.
 There are the same amount of marbles as there are hats.
 $5 \times 3 = 15$
 $3 \times 5 = 15$

2 Divide by 3

→ pages 192–195

Discover

- a) $18 \div 3 = 6$
 6 boxes are needed.
- $27 \div 3 = 9$
 Each person gets 9 cakes.

Think together

- There are 12 bread rolls.
 $12 \div 3 = 4$
 4 packs can be made.
- $21 \div 3 = 7$
 7 doughnuts will go on each plate.
- Zac used grouping.
 Olivia drew a 3×11 array or an 11×3 array.
 Lee used the fact $11 \times 3 = 33$ to help him.
 You could also use sharing or repeated subtraction.

3 The 3 times-table

→ pages 196–199

Discover

- a) $18 \div 3 = 6$ $11 \times 3 = 33$
 $9 \div 3 = 3$ $4 \times 3 = 12$
- $5 \times 3 = 15$

Think together

- a) $4 \times 3 = 12$
 b) $11 \times 3 = 33$

2.

33	27	0	4
21	24	12	6
10	6	8	12

- a) Double 6×3
 $10 \times 3 + 2 \times 3$
- $3 \times 3 \times 3 = 27$ (use 9×3)
 $13 \times 3 = 39$ (add 3 to the answer to 12×3)
 $3 \times 20 = 60$ (double the answer to 10×3)

4 Multiply by 4

→ pages 200–203

Discover

- a) $6 \times 4 = 24$
 There are 24 donkey legs.
- There are 5 people in the family.
 The cost for each person is £4.
 The total cost is $5 \times £4 = £20$.
 Mr Peters pays the correct amount.

Think together

- a) $7 \times 4 = 28$
 There are 28 donkey legs.
- $4 \times 4 = 16$
 It costs £16 in total to go donkey trekking.
- There are 8 donkeys because $8 \times 4 = 32$.
- $9 \times 4 = 36$
 Yes, Ebo's method always works.

5 Divide by 4

→ pages 204–207

Discover

- a) $20 \div 4 = 5$
 Each player gets 5 cards.
- $28 \div 4 = 7$
 There are 7 piles.

Think together

- $12 \div 4 = 3$
 There are 3 coins in each money box.
- $32 \div 4 = 8$
 There are 8 bunches.
- a) $44 \div 4 = 11$
 There are 11 marbles in each box.
- You cannot share 22 marbles equally between 4 boxes. There are 2 marbles too many.
 You would need 2 more marbles to share equally.



6 The 4 times-table

→ pages 208–211

Discover

- $6 \times 4 = 24$, $8 \times 4 = 32$
 - Use 7×4 to work out $4 \times 7 = 28$.
Use 12×4 to work out $48 \div 4 = 12$.

Think together

- $5 \times 4 = 20$
There are 20 cubes.
 - $11 \times 4 = 44$
There are 44 boxed pens.
 - $4 \times 6 = 24$
There are 24 bread rolls.
- Mary has got five answers right and five answers wrong. The correct answers are:

$7 \times 4 = 28$	$12 \div 4 = 3$
$4 \times 9 = 36$	$4 \div 4 = 1$
$4 \times 1 = 4$	$8 \div 4 = 2$
$0 \times 4 = 0$	$24 \div 4 = 6$
$10 \times 4 = 40$	$44 \div 4 = 11$
- 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76, 80, 84, 88, 92, 96, 100
They are all even numbers and the pattern repeats every two rows.

7 Multiply by 8

→ pages 212–215

Discover

- $4 \times 8 = 32$
There are 32 slices in total.
 - $5 \times 2 = 10$, $5 \times 4 = 20$, $5 \times 8 = 40$
The answer doubles each time.

Think together

- $6 \times 8 = 48$
There are 48 legs altogether.
- $11 \times 8 = £88$
The total cost is £88.
- $9 \times 2 = 18$
 $18 \times 2 = 36$
 $9 \times 4 = 36$
 - $9 \times 2 = 18$
 $18 \times 2 = 36$
 $36 \times 2 = 72$
 $9 \times 8 = 72$
 - $15 \times 4 = 60$, $15 \times 8 = 120$

8 Divide by 8

→ pages 216–219

Discover

- $24 \div 8 = 3$
3 moulds can be filled.
 - Miss Hall can fill 4 moulds.

Think together

- $40 \div 8 = 5$
Alex can use 5 chocolate chips on each cupcake.
- $72 \div 8 = 9$
 - $48 \div 8 = 6$
- $16 \div 2 = 8$, $16 \div 4 = 4$, $16 \div 8 = 2$
 - Halve it, halve it again and halve it again.
 $88 \div 2 = 44$
 $44 \div 2 = 22$
 $22 \div 2 = 11$
 $88 \div 8 = 11$

9 The 8 times-table

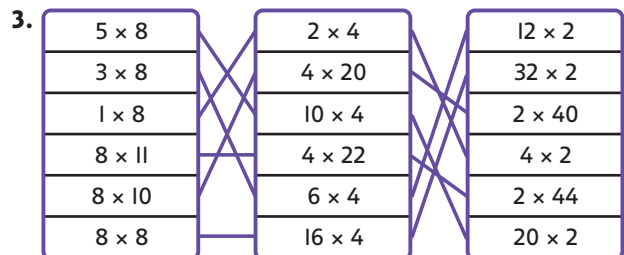
→ pages 220–223

Discover

- $2 \times 8 = 16$, $6 \times 8 = 48$, $9 \times 8 = 72$
 - The 4 times-table is double the 2 times-table.
The 8 times-table is double the 4 times-table.

Think together

- $5 \times 8 = 40$
There are 40 bottles of water.
 - $11 \times 8 = 88$
There are 88 eggs.
 - $1 \times 8 = 8$
There are 8 cubes.
- | | | |
|-------|-------|-------|
| a) 24 | d) 96 | g) 16 |
| b) 80 | e) 5 | h) 0 |
| c) 1 | f) 40 | |





10 Problem solving – multiplication and division (1)

→ pages 224–227

Discover

- $24 \div 4 = 6$
There will be 6 rows of 4 plants.
 - $2 \times 10 = 20$
Amal has 20 flowers in total.

Think together

- $8 \times 3 = 24$ or $3 \times 8 = 24$
There are 24 plants.
- $30 \div 5 = 6$
There are 6 flowers in each vase.
- $8 \times £3 = £24$; $£24 \div 4 = £6$
A large plant pot costs £6.

11 Problem solving – multiplication and division (2)

→ pages 228–231

Discover

- $3 \times 8 = 24$ cm
 - $32 \div 8 = 4$ blocks, or $32 \div 4 = 8$ blocks

Think together

- $7 \times 4 = 28$
The shape is 28 cm long.
- Tower A: $5 \times 4 = 20$ cm tall
Tower B: $2 \times 8 = 16$ cm tall
Tower A is the taller tower. It is 4 cm taller.
- $3 \times 4 = 12$ cm, $2 \times 8 = 16$ cm, $12 + 16 = 28$ cm
The pattern is 28 cm long.

12 Understand divisibility (1)

→ pages 232–235

Discover

- 13 sticks – 3 whole squares and 1 left over.
 - 14 sticks – 3 whole squares and 2 left over.
15 sticks – 3 whole squares and 3 left over.
16 sticks – 4 whole squares and 0 left over.
17 sticks – 4 whole squares and 1 left over.

Think together

- 18 sticks – 4 squares and 2 left over.
19 sticks – 4 squares and 3 left over.
20 sticks – 5 squares and 0 left over.

- The amount left over goes 0, 1, 2, 3 and then repeats itself.
 - The amount left over can never be 4 or more as otherwise they would be able to make another square. Zac is correct.
- 11 sticks – 3 triangles and 2 left over.
12 sticks – 4 triangles and 0 left over.
13 sticks – 4 triangles and 1 left over.
14 sticks – 4 triangles and 2 left over.
15 sticks – 5 triangles and 0 left over.

13 Understand divisibility (2)

→ pages 236–239

Discover

- There are 4 full bags and 2 apples left over.
 - $22 \div 5 = 4$ remainder 2

Think together

- $7 \div 2 = 3$ remainder 1
There are 3 oranges in each bowl. There is 1 orange left over.
- $14 \div 3 = 4$ remainder 2
- $12 \div 5 = 2$ remainder 2
 $17 \div 4 = 4$ remainder 1
 $13 \div 8 = 1$ remainder 5
 $51 \div 10 = 5$ remainder 1
 - Numbers in the 3 times-table have a remainder of 0.

End of unit check

→ pages 240–241

- C: 8
- D: $4 + 4 + 4 + 4$
- C: 6×4
- B: 12×4
- C: 28
- D: 5 cubes, 1 left over
- 2