



# Unit 1 – Place value within 1,000

## I Represent and partition numbers to 100

→ pages 6–8

- a) 43  
b) 35
- 64
- a) 72  
b) 18  
c) 50
- a) 5 in missing part  
b) 30 and 7 in the parts  
c) 56 in the whole
- a) 16 in whole, 10 and 6 in parts  
b) 45 in whole, 40 and 5 in parts
- All numbers have the same number of ones.  
The numbers all have a different number of tens.

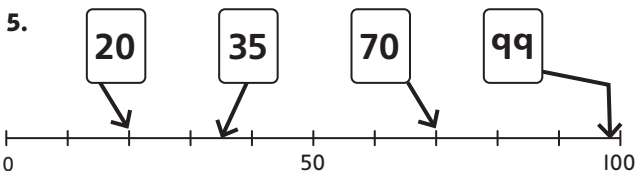
### Reflect

Answers will depend on children’s choice of a 2-digit number. The part-whole model should show the 2-digit number as the whole and the 10s digit and 1s digit as the parts.

## 2 Number line to 100

→ pages 9–11

- a) 50, 60, 70, 80, 90  
b) 35, 36, 37, 38, 39
- a) 20, 60, 90  
b) 41, 46, 48
- a) 75  
b) 15
- Max is not correct. 45 is half-way between 40 and 50, but the arrow is much nearer to 50, so is 49.



- 17, 32, 55, 79
- 7, 17, 27 and so on. All the numbers have a 1s digit of 7.

### Reflect

Answers may vary, but children should refer to multiples of 10 and 5 as being easier to place. They may say that numbers with a 1 or 9 ones digit are the next easiest, with all other numbers being harder to place.

## 3 100s

→ pages 12–14

- a) 100  
b) 300  
c) 500
- 800
- a) 500, five hundred  
b) 800, eight hundred
- a) 400, 500  
b) 900, 800  
c) 200, 100, 0  
d) 600, 700, 1,000
- Children should draw 7 boxes.
- One thousand.

### Reflect

When counting out loud, the children would say the numbers 200, 300, 400, 500, 600 and 700 twice.

## 4 Represent numbers to 1,000

→ pages 15–17

- 536
- a) 362  
b) 529  
c) 106
- a) 315  
b) 160  
c) 284  
d) 235
- a) 2 hundreds  
b) 6 tens  
c) 3 ones
- 429
- Olivia can make 6 different 3-digit numbers:  
872, 827, 782, 728, 287, 278

### Reflect

Answers will depend on the number the children make.



## 5 Partition numbers to 1,000

→ pages 18–20

- 300, 20 and 5 in the parts
  - 217 is the whole  
200, 10 and 7 are the parts
- 429
  - 317
- 3 hundreds, 7 tens and 2 ones is equal to 372.
- 500 20 8
  - 200 60 6
  - 300 50
  - Children should complete the part-whole model with 3 parts of 400, 60 and 7.
- $724 = 700 + 20 + 4$
  - $392 = 300 + 90 + 2$
- 5
  - $30 + 8$
  - 3 hundreds + 9 tens + 5 ones
  - $700 + 60$
  - 905
- 267
  - 53
  - $382 = 300 + 80 + 2$
  - 57
  - 12

### Reflect

Phil has not understood place value and position. The 6 digit is the 1s and the 8 digit is the tens so the number is 486.

## 6 Partition numbers to 1,000 flexibly

→ pages 21–23

- 50
  - 150
  - 250
  - 350
- 30
  - 20
- 80
  - 180
  - 280
  - 160
- 577
- 540
  - 500
  - 340
  - 145

### Reflect

Many answers are possible, such as:

$$500 + 20 + 4, 100 + 420 + 4, 210 + 300 + 14.$$

Children should check their addition totals 524.

## 7 100s, 10s and 1s

→ pages 24–26

- 342
  - 256
  - 650
  - 605
- Children draw counters in place value charts, correctly labelled as follows:
  - 4 circles in the H column, labelled 100;  
2 circles in the T column, labelled 10;  
6 circles in the O column, labelled 1.
  - 2 circles in the H column, labelled 100;  
0 circles in the T column;  
3 circles in the O column, labelled 1.
- 1 circle in the H column, labelled 100;  
4 circles in the T column, labelled 10;  
1 circle in the O column, labelled 1.
  - 3 circles in the H column, labelled 100;  
5 circles in the T column, labelled 10;  
2 circles in the O column, labelled 1.
- 332
  - 242
- Both numbers have the same value, but appear different because Ally has eleven 10s counters. She needs to change 10 of these to a 100 counter and then the number would look the same.  
 $200 + 110 + 4 = 300 + 10 + 4 = 314$

### Reflect

Children make a range of 3-digit, 2-digit and 1-digit numbers. All the digit sums should make 6.

For example: 600, 510, 42, 501, 60, 6.

They will know if they have found them all if they worked systematically.

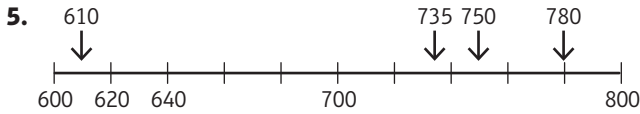
## 8 Use a number line to 1,000

→ pages 27–29

- Boat A 250 m
  - Boat B 800 m
- 400, 700, 800, 900
  - 820, 830, 850, 860, 870, 880, 890
- 250, 400, 900
  - 440, 470, 495
  - 285, 289



4. 101 is the next number after 100 but this number line does not go up in 1s. There are 10 sections between 100 and 200, so each section is worth 10 because 10 lots of 10 make 100. So the first mark will be  $100 + 10 = 110$ . Isla is not correct.



**Reflect**

Top line: 650 = half-way between 6th and 7th mark  
 Middle line: 650 = on 5th mark  
 Bottom line: 650 = on 8th mark

They are not in the same place because, although the number lines are the same length, the steps they go up in are all different. The top one is in steps of 100; the middle one is in steps of 10 and the bottom one is in steps of 1.

**9 Estimate on a number line to 1,000**

→ pages 30–32

- 550 on the 5th mark after 500  
570 on the 7th mark after 500  
599 just before 600
  - 361 on the 1st mark after 360  
365 on 5th mark after 360  
369 on the mark before 370
  - 300 on 3rd bold mark after 0  
550 half-way between 5th and 6th bold marks after 0  
795 just before 8th bold mark after 0, half-way between the shorter mark and main 800 mark
- Approximately ( $\pm 5$ ): 150, 660, 990
  - Approximately ( $\pm 1$ ): 245, 279, 292
- Allow any numbers  $> 700$  and  $< 800$
  - Allow any numbers  $> 150$  and  $< 160$
- 200 one-fifth along the number line  
750 three-quarters of the way along  
998 just before 1,000
  - 140 two-fifths along the number line, before half-way  
199 just before 200
- Children complete chart. Reading down:
  - True
  - False
  - True
  - Cannot tell

6. The start and end numbers both have 0s in the 10s and 1s column, they are multiples of 100. Because the first number is 213, the nearest multiple of 100 would be 200. The number line has numbers greater than 300, so the end number is 400, which is the next multiple of 100 after 321.

**Reflect**

Answers will depend on the number marked. Children may have made interval marks for the 100s, in which case it can be confirmed that their number lies between the correct 100s marks. 346 should lie just under half-way between 300 and 400, for example. Numbers  $< 500$  are on the left side and  $> 500$  on the right side.

**10 Find 1, 10 and 100 more or less**

→ pages 33–35

- 275
  - 375
  - 285
  - 276
- 100 less than 482 is 382
  - 10 less than 482 is 472
  - 1 less than 482 is 481
- 395
  - 327
  - 779
  - 195
  - 307
  - 777
- |        |        |
|--------|--------|
| a) 928 | d) 389 |
| b) 855 | e) 728 |
| c) 78  | f) 114 |
- 498
  - 598, 398, 508, 488, 499, 497
- Children complete the maze from start by travelling:
  - right, right, down, down, right, down, left
  - or right, right, down, down, left, down, right
  - or down, down, right, right, up, right, down, down, right
- 435
  - 148

**Reflect**

Children generate a number using dice. Children swap with a partner so the chart will be checked.

Explanations will vary: for example, I know Louise's number is 452 as her chart said 100 more was 552. I took 100 away from 552 and got 452.



## 11 Compare numbers to 1,000

→ pages 36–38

- Children should have circled:
  - 348
  - 367
- Children should have circled:
  - 395
  - 495
  - 400
  - 379
  - 711
  - 740
- 53, 170, 340 should be circled
  - 290, 286, 300, 1,000 should be circled
- $129 < 210$
  - $970 > 97$
  - $309 < 320$
  - $494 > 409$
  - $718 < 1,000$
  - $426 = 400 + 20 + 6$
- Any digit 0 – 5 inclusive
  - Any digit 6 – 9 inclusive
  - Answers will vary: Ensure that left-hand number is greater, for example  $388 > 387$
  - Answers will vary. Ensure right-hand number is greater, for example  $941 < 951$
- 'Cannot tell' circled  
 Because both Reena's and Zac's numbers have 4 hundreds but we don't know what is in Reena's 10s and 1s column. It could be greater than 418 or less.  
 b) Amelia, because her number only has 3 hundreds which is less than Reena's or Zac's numbers.

### Reflect

Answers will vary but should explain about comparing 100s first, then 10s and finally 1s to decide which number is greater.

## 12 Order numbers to 1,000

→ pages 39–41

- 180, 225, 256
- Greatest to smallest: 740, 471, 417  
Smallest to greatest: 417, 471, 740
- 310, 305, 285, 93
- 115, 118, 126
  - 200, 207, 295, 529
  - 86, 608, 800, 806
  - 70, 80, 780, 870
- Allow various answers.  
First box can only have 1, 2 or 3.  
Second box allow any digit.  
Third box allow digits 4 and above.

- Answers will vary.  
First box may have digits 3 and above.  
Second box if the first box had 3, then second box must be 4 or less.  
If the first box was greater than 3, allow any digit.  
Third box allow 3 or less.

### Reflect

Answers will vary. Children will explain that the 2-digit number is smallest as it has 0 hundreds.

They will then compare the 100s, finding that 718 has only 7 in the 100s.

Children will then compare the 10s, finding that 7 tens is greater than 1 ten so 871 is the greatest.

## 13 Count in 50s

→ pages 42–44

- 100  
150  
200  
400  
500
  - Children circle 11 packs
- 50, 200, 300, 350
  - 600, 650, 700, 850, 900
  - 250, 350, 400, 450
  - 650, 500, 400, 350
- circle = 250  
triangle = 600
- 450
  - 550
- 14 coins

### Reflect

Answers will vary. Children should say that every other number is a hundred number and the numbers in between 'end' with a fifty, e.g. four hundred, four hundred and fifty, five hundred, five hundred and fifty.



## My journal

→ pages 45–46

Answers will vary.

1. Children will describe the number 415 in a variety of ways, describing its position on a number line. They may comment on its value compared to others, for example it is less than 500.

2. Children explore using place value grid and seven counters to make numbers.

$500 < \text{number made} < 700$

Numbers made must have a digit total of 7

Possible numbers are:

520, 502, 511, 610 and 601

If you had 8 counters, you could still make numbers in the range, but there could still only be 5 or 6 counters in the hundreds

Possible answers are:

530, 503, 521, 512, 620, 602 and 611

## Power play

→ page 47

Answers will depend on the number they have made but should match the criteria in the table and be sensible estimates on the number line.



# Unit 2 – Addition and subtraction (I)

## I Use known number bonds

→ pages 48–50

- 6 ones
  - 6 tens
  - 6 hundreds
- 4 ones
  - 4 hundreds
- $300 + 200 = 500$
  - $700 - 600 = 100$
- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>8, 800</li> <li>8, 800</li> <li>9, 900</li> </ol> | <ol style="list-style-type: none"> <li>2, 200</li> <li>2, 200</li> <li>4, 400</li> </ol> |
|--|--|
- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>500</li> <li>300</li> <li>500</li> </ol> | <ol style="list-style-type: none"> <li>900</li> <li>200</li> <li>700</li> </ol> |
|---|---|
- 600
  - 400
- Star = 3, triangle = 5, square = 8

### Reflect

Using fact families, they should find 8 answers:

$900 - 400 = 500$ ,  $900 - 500 = 400$ ,  $500 = 900 - 400$ ,  
 $400 = 900 - 500$

$400 + 500 = 900$ ,  $500 + 400 = 900$ ,  $900 = 400 + 500$ ,  
 $900 = 500 + 400$

## 2 Add/subtract 1s

→ pages 51–53

- 258
  - 139
- 322
  - 131
- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>163</li> <li>164</li> <li>165</li> </ol> | <ol style="list-style-type: none"> <li>166</li> <li>167</li> <li>169</li> </ol> |
|---|---|
- 317
  - 316
  - 313
  - 312
  - 310
- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>288</li> <li>319</li> </ol> | <ol style="list-style-type: none"> <li>255</li> <li>582</li> </ol> |
|--|--|

b) Only the 1s digit changes as the number of ones subtracted is less than the 1s digit in the 3-digit number.

- 318
  - 7
  - 3
- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>128</li> <li>0</li> </ol> | <ol style="list-style-type: none"> <li>623</li> <li>633</li> </ol> |
|--|--|
- |                 |    |                 |
|-----------------|----|-----------------|
| $153 + 6 = 159$ | or | $156 + 3 = 159$ |
| $549 - 0 = 549$ |    |                 |
| $432 + 1 < 434$ | or | $431 + 2 < 434$ |

### Reflect

Answers may vary. Children represent  $235 - 3$  and  $235 + 3$  pictorially. This could be represented with base 10 equipment, place value grid or counters.

## 3 Add/subtract 10s

→ pages 54–56

- $236 + 20 = 256$
  - $152 + 30 = 182$
- $458 - 30 = 428$
  - $263 - 50 = 213$
- 635
  - 675
- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>255</li> <li>265</li> <li>275</li> <li>285</li> <li>295</li> </ol> | <ol style="list-style-type: none"> <li>375</li> <li>365</li> <li>355</li> <li>345</li> <li>335</li> </ol> |
|---|---|

Only the 10s digit changes by one each time.
- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>40</li> <li>684</li> <li>20</li> </ol> | <ol style="list-style-type: none"> <li>295</li> <li>604</li> <li>0 in both boxes</li> </ol> |
|---|---|
- |  |  |  |  |
|--|--|--|--|
| <ol style="list-style-type: none"> <li>213</li> <li>233</li> </ol> | <ol style="list-style-type: none"> <li>223</li> <li>243</li> </ol> | <ol style="list-style-type: none"> <li>233</li> <li>253</li> </ol> | <ol style="list-style-type: none"> <li>243</li> <li>263</li> </ol> |
|--|--|--|--|

### Reflect

Children should explain how to use the facts  $3 + 6 = 9$  and  $7 - 4 = 3$  to work out the 10s digit without working out the full answer.

$432 + 60 = 492$   
 $472 - 40 = 432$

## 4 Add/subtract 100s

→ pages 57–59

- 516
  - 685
- 423
  - 337
- 714** is 200 more than 514
  - 314** is 200 less than 514



4. a) 426                      b) 681  
     526                      581  
     626                      481  
     726                      381  
     826                      281

Only the 100s digit changes.

5. a) 681  
    b) 265
6. Alex: 300  
    Ebo: 300  
    Kate: 180

**Reflect**

Only the 100s digit is affected when you add or subtract hundreds. The 10s and 1s digits have nothing added to or subtracted from them, so do not change.

**5 Spot the pattern**

→ pages 60–62

1. a) 258  
    b) 294  
    c) 654  
 Only one digit changes each time.
2. a) 256  
    b) 436
3. a) 545                      c) 30  
     365                      300  
     347                      3  
    b) 757                      d) – 200  
     775                      – 300  
     977                      + 400
4. 797
5.  $292 + 20$ ,  $322 - 90$ ,  $322 + 90$  all cross a hundred and therefore both the 100s digit and the 10s digit change.

**Reflect**

Only one digit changes in each calculation. Children should explain how to use the fact  $3 + 2 = 5$  to work out the 10s digit in  $138 + 20$ , and the fact  $1 + 2 = 3$  to work out the 100s digit in  $138 + 200$ . This allows them to solve the calculations in their head.

**6 Add 1s across 10**

→ pages 63–65

1. a) 323  
    b) 324  
    c) 325  
    d) 327

2. a) 222  
    b) 573  
    c) 636
3. a) 223  
    b) 223  
    c) The answers are the same because the 1s digits are the same ( $5 + 8$  and  $8 + 5$ ).

4. a) These additions should be ticked:

- $154 + 8$ ,  $418 + 5$ ,  $514 + 8$ ,  $158 + 4$
- b)  $458 + 1 = \mathbf{459}$   
 $185 + 4 = \mathbf{189}$   
 $154 + 8 = \mathbf{162}$   
 $841 + 5 = \mathbf{846}$   
 $584 + 1 = \mathbf{585}$   
 $418 + 5 = \mathbf{423}$   
 $514 + 8 = \mathbf{522}$   
 $158 + 4 = \mathbf{162}$

5. a) 3                                      c) 392  
     5                                      394  
     8                                      397  
    b) 6  
     7  
     9

**Reflect**

Children’s explanations may vary. Explanations should notice the same ‘starting’ number but in  $5 + 3$  the 10s digit stays the same, only the 1s digit changes. In  $5 + 8$ , both the 10s and 1s digits change as  $5 + 8 > 10$ .

**7 Add 10s across 100**

→ pages 66–68

1. a) 335  
    b) 554  
    c) 628
2. a) 392                                  d) 422  
    b) 402                                  e) 462  
    c) 412
3. a) 524  
     524  
    b) 653  
     653
4. Isla has forgotten to add the extra hundred from the 10 tens.
5. a) 324                                      d) 299  
    b) 421                                      e) 812  
    c) 609                                      f) 60
6. a)  $861 + 40 = 901$   
 $901 + 50 = 951$   
 $861 + 90 = 951$   
    b) Various suggestions could be made, such as adding 100, subtracting 10.  
 $861 + 100 = 961$ ,  $961 - 10 = 951$



**Reflect**

When I add a 3-digit number and 10s, I know I will need to exchange 10 tens for 1 hundred if **I have counted more than 9 tens in the tens column.**

**8 Subtract 1s across 10**

→ pages 69–71

1. a) 409  
b) 407  
c) 406  
d) 404
2. a) 238  
b) 757  
c) 424
3. a) 637  
b) 918
4. Isla has subtracted 5 from 7 instead of 7 from 5.  
 $35 - 7 = 28$  so  $235 - 7 = 228$
5. a) 3                          6  
4                                  9  
b) **351**                      **352**  
356                              357

**Reflect**

The 10s digit of an answer will change if you subtract a larger 1s digit from a smaller 1s digit.

**9 Subtract 10s across 100**

→ pages 72–74

1. a) 175  
b) 171  
c) 235
2. a) 318                          d) 278  
b) 308                          e) 258  
c) 298
3. 185                          215                          245  
286                          316                          346  
240                          270                          300
4. a) 280                          c) 290  
b) 751                          d) 761
5. a) 266  
b) 552  
Part-whole: 500 and 2  
Base 10: 5 hundreds and 2 ones
6. Various methods may be explained to show  $231 - 90$ , such as  $231 - 100 + 10 = 141$ .

**Reflect**

If you know  $5 + 9 = 14$ , you also know  $9 + 5 = 14$ ,  $14 - 9 = 5$ ,  $14 - 5 = 9$ , so you also know,  $50 + 90 = 140$ ,  $90 + 50 = 140$ ,  $140 - 90 = 50$ ,  $140 - 50 = 90$ .

**10 Make connections**

→ pages 75–77

1. a) 15  
b) 150
2. a) 15  
b) 150
3. a) 8  
b) 80
4. a) 6  
b) 60
5. a) 270                          c) 18  
b) 270                          d) 180
6. 13                                  130                                  230  
330                                  430                                  830

Whether you are adding the 1s digit or the 10s digit, you need to know  $5 + 8$  for every calculation.

**Reflect**

I know  $15 - 8$ , so I can work out  $251 - 80$  by **splitting 251 into 150 + 101 and subtracting 80 from 150.**

**$150 - 80 = 70$**

$251 = 150 + 100 + 1$

$251 = 150 + 101$

$251 - 80 = 70 + 100 + 1 = 171$      $251 - 80 = 70 + 101 = 171$

**My journal**

→ page 78

Both subtractions use a counting back method.

The first one subtracts the one first, then the tens in two jumps.

The second one subtracts the tens first, in one jump, then the one.

**Power play**

→ page 79

Mo’s number is 163.

Kate’s number is 38.

$M + K = 201$

$M - K = 125$

$(M + K) + (M - K) = 201 + 125 = 326$

$M + M = 326$

$M = 163$

$K = 38$





# Unit 3 – Addition and subtraction (2)

## I Add two numbers

→ pages 80–82

- $224 + 543 = 767$
  - $301 + 644 = 945$
- $527 + 221 = 748$
- 798
  - 972
  - 397
  - 894
  - 867
- $235 + 312 = 547$  children in total
- $186 + 312 = 498$        $300 + 245 = 545$
- Triangle = 2  
 Square = 3  
 Star = 6
- 861
  - 862                      871
  - 961                      861
  - 871                      882

### Reflect

Joe has mixed up the 10s and 1s digits in 134 on the place value grid.

## 2 Subtract two numbers

→ pages 83–85

- 543
  - 525
- 255
- 454                      d) 348
  - 425                      e) 654
  - 546                      f) 364
- 690
- $599 - 377 = 222$
- Various answers are possible. For example:
  - $333 - 120 = 213$  and  $333 - 121 = 212$
  - $444 - 201 = 243$  and  $444 - 211 = 233$
  - $201 - 101 = 100$  and  $211 - 101 = 110$

### Reflect

Drawing of 3 hundreds, 7 tens and 2 ones, with 2 hundreds, 5 tens and 1 one crossed out.

## 3 Add two numbers (across 10)

→ pages 86–88

- 282
  - 352
  - 772
- 382
  - 821
  - 900
- 484
  - 941
- $478 + 215 = 693$   
 $178 + 13 = 191$   
 $729 + 232 = 961$
  - Various possible answers, e.g.  $809 + 102$ ,  $799 + 112$ ,  $789 + 122$ ,  $779 + 132$ ,  $769 + 142$ ,  $759 + 152$ .
- $289 + 136 = 425$  km in total
- Henri is incorrect because the ones, 7 and 6, add to 13, so the ones digit will be 3.

### Reflect

$305 + 407$  will not have a zero in the tens column because the ones, 5 and 7, add to 12, so there will be an exchange:  $12 = 10 + 2$  so the answer is 712.

## 4 Add two numbers (across 100)

→ pages 89–91

- 418                      d) 608
  - 843                      e) 787
  - 736
- $365 + 252 = 617$
- $£276 + £163 = £439$
- 612 kg
  - £778
- $562 + 374 = 936$   
 $425 + 292 = 717$
- No exchange:  $109 + 190$   
 Exchange 10 tens for 1 hundred:  
 $347 + 270$      $237 + 173$      $410 + 199$      $388 + 113$   
 Exchange 10 ones for 1 ten:  
 $236 + 155$      $237 + 173$      $388 + 113$
- The ones digit could be 6 or above.  
The ones digit could be 3 or above.

### Reflect

Children should explain how to line up the digits in columns under their correct place value. They should comment on what happens when a column of digits adds to 10 or more. They may comment on how to add mentally if the columns do not add to 10 or more.



## 5 Subtract two numbers (across 10)

→ pages 92–94

- a) 228  
b) 446
- Emma has not subtracted the bottom number from the top, she has subtracted the smallest number from the largest. To find the correct answer, you need to subtract 5 from 1 (exchanging 1 ten for 10 ones).  
 $471 - 135 = 336$ .
- a) 717  
b) 235  
c) 348
- a) 236  
b) 222
- a)  $575 - 439 = 136$   
b)  $880 - 539 = 341$
- $300 + 90 + 15 = 405$   
 $405 - 138 = 267$
- $194 + 195 = 389$   
 $389 - 263 = 126$

### Reflect

To work out  $592 - 164$ , first exchange 1 ten for 10 ones (write a 1 next to the 2 in the ones column), making 12. Replace the 9 in the tens column with 8 to show that 1 ten has been exchanged. Work out the subtractions in each column:  $592 - 164 = 428$ .

		H	T	O
		5	<del>9</del> <sup>8</sup>	12
	-	1	6	4
		4	2	8

## 6 Subtract two numbers (across 100)

→ pages 95–97

- a) 185  
b) 452  
c) 177  
d) 474  
e) 671
- a) 184  
b) 470
- a) 153 m  
b) £280
- There are **255** more adults than children.

- a) 155  
b) 176  
c) 542  
Each calculation needed 1 or more exchanges.

- $828 - 172 = 656$   
The other number is 656.  
 $656 - 172 = 484$   
The difference between the two numbers, 656 and 172, is **484**.

### Reflect

Children should mention lining up the digits correctly in their place value columns and always subtracting the bottom number from the top number. This will sometimes mean exchanging from the next column to the left: 1 ten for 10 ones or 1 hundred for 10 tens. Sometimes, if there is a zero in the tens column, you will need to first exchange 1 hundred for 10 tens, then 1 of those tens for 10 ones.

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

→ pages 98–100

- a) 191  
b) 234
- a)  $823 + 92 = 915$
- a) 305  
b) 320  
c) 601
- a) 201  
b) 722  
c) 500
- No exchange:  $731 + 28$ ,  $827 + 31$   
Exchange 10 ones:  $712 + 38$ ,  $318 + 72$   
Exchange 10 tens:  $238 + 71$ ,  $73 + 182$
- a)  $355 + 61 = 416$   
b)  $354 + 62 = 416$
- a) Greatest total is  $999 + 99 = 1,098$   
b) Smallest total is  $100 + 10 = 110$

### Reflect

Children should note that the digits have been lined up incorrectly. 32 has 3 tens and 2 ones so should be lined up under the T and O columns, not the H and T columns.



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

→ pages 101–103

- 318
  - 191
  - 374
- 281
  - 390
- 128
  - 184
  - 169
  - 889
- The ones have been subtracted in the wrong order, 8 – 7 rather than 7 – 8.
  - 119
- Various combinations are possible, but the 100s digit must be 2 and the 10s digit of the 2-digit number must be equal to or greater than the 10s digit of the 3-digit number. For example:  
 $222 - 95 = 127$ ,  $225 - 59 = 166$ ,  $252 - 59 = 193$ .
- Triangle = 9
  - Square = 8
  - $989 - 98 = 891$

### Reflect

Answer will vary, but could include the importance of lining up the digits properly in a place value grid.

## 9 Complements to 100

→ pages 104–106

- 25
  - 59
- $80 + 20 = 100$
  - $55 + 45 = 100$
- $40 + 60 = 100$
  - $71 + 29 = 100$
- $70 + 30 = 100$
  - $15 + 85 = 100$
  - $21 + 79 = 100$
  - $7 + 93 = 100$
  - $23 + 77 = 100$
  - $100 = 100 + 0$
- $50 + 50 = 100$
- $36 + 64 = 100$
  - 3 of:
    - $41 + 59 = 100$
    - $42 + 58 = 100$
    - $43 + 57 = 100$
    - $44 + 56 = 100$
    - $45 + 55 = 100$
    - $46 + 54 = 100$
    - $47 + 53 = 100$
    - $48 + 52 = 100$
    - $49 + 51 = 100$
  - $15 + 85 = 100$
  - 3 of:
    - $16 + 84 = 100$
    - $26 + 74 = 100$
    - $36 + 64 = 100$
    - $46 + 54 = 100$
    - $56 + 44 = 100$
    - $66 + 34 = 100$
    - $76 + 24 = 100$
    - $86 + 14 = 100$

### Reflect

Answers should show some system such as:

$10 + 90$ ,  $20 + 80$ ,  $30 + 70$ ,  $40 + 60$ ,  $50 + 50$ ,  $60 + 40$ ,  
 $70 + 30$ ,  $80 + 20$ ,  $90 + 10$ .

Children may mention using number bonds to 10 to help them.

## 10 Estimate answers

→ pages 107–109

- $300 + 200 = 500$
  - $600 - 400 = 200$
  - $300 + 300 = 600$
  - $700 - 100 = 600$
  - $304 + 198 = 502$
  - $607 - 411 = 196$
  - $293 + 295 = 588$
  - $702 - 98 = 604$
- Approximately 200:  $548 - 351$   
 Approximately 500:  $195 + 304$ ,  $949 - 452$ ,  $88 + 399$   
 Approximately 800:  $901 - 99$ ,  $990 - 195$
- Lee:  $500 - 300 = 200$ , probably correct  
 Kate:  $300 + 500 = 800$ , probably correct  
 Isla:  $800 - 400 = 400$ , so probably incorrect  
 $781 - 394 = 387$
- Mo has used the nearest hundred for his estimation  
 $100 + 500 = 600$
  - A better estimate is to use the nearest 10  
 $150 + 540 = 690$
- Using the nearest hundred:  $200 + 300 = 500$   
 I agree with **Jamie** because  **$198 < 200$  and  $297 < 300$ , so the answer will be less than 500.**

### Reflect

Expect estimations as follows:

$205 + 198$ :  $200 + 200 = 400$ . Both numbers are close to their nearest hundred.

$513 - 308$ :  $500 - 300 = 200$  or  $510 - 310 = 200$ . Both numbers are close to their nearest hundred and their nearest 10.

$448 + 297$ :  $450 + 300 = 750$ . 448 is closer to the nearest 10 rather than the nearest 100, but 297 is closer to the nearest 100.

## 11 Inverse operations

→ pages 110–112

- $200 = 340 - 140$   
 $140 = 340 - 200$   
 $140 + 200 = 340$   
 $200 + 140 = 340$
  - $601 - 599 = 2$   
 $599 = 601 - 2$   
 $599 + 2 = 601$   
 $601 = 2 + 599$



2. a) 553 in the whole and 364 and 21 in the parts.  
 $364 + 21 = 385$ .  
 b)  $553 - 364 = 189$
3. 517 in the whole and 310 and 207 in the parts.  
 $310 + 207 = 517$ , so answer is correct
4. a)  $167 + 88 = 255$  is correct  
 b) I agree with Olivia because **the addition answer agrees with the subtraction answer.**
5. a)  $700 - 500 = 200$   
 b)  $700 - 499 = 201$   
 c) + 200 in the box  
 You can check your answer with the addition  
 $499 + 201 = 700$ .
3.  $324 - 166 = 158$   
 Blackpool Tower is 158 m tall.
4. a)  $161 - 158 = 3$  more girls than boys in School A.  
 b)  $158 + 161 = 319$  in School A  
 $173 + 118 = 291$  in School B  
 $319 - 291 = 28$   
 There are 28 more pupils in School A.
5. The bar model should show 801 in the whole box on the left and 699 in the part box which makes up part of Zac's bar.  
 Ebo's number is 750.  
 Zac's number is 51.

### Reflect

Children should mention using estimation, checking subtraction with addition or checking addition with subtraction. Some children may realise that an addition can also be checked with another addition and a subtraction with another subtraction.

## 12 Problem solving (1)

→ pages 113–115

1. a) £335 altogether  
 b)  $325 - 231 = 94$   
 They need to raise £94 more.
2.  $175 + 88 = 263$   
 There are 263 points altogether.  
 Children should draw a bar model showing 88 and 175 in the parts and 263 in the whole.
3.  $266 - 128 = 138$   
 Rani had 138 shells to begin with.  
 Children should draw a bar model showing 138 and 128 in the parts and 266 in the whole.
4. a) Children should draw a bar model with 201 as the whole and 99 as one of the two parts.  
 b)  $201 - 99 = 102$

### Reflect

$$405 - 198 = 207$$

## 13 Problem solving (2)

→ pages 116–118

1.  $314 - 282 = 32$
2. a) The top bar model should show Jen: £205.  
 The bottom bar model should show Joshi: £175.  
 $205 - 175 = 30$   
 Jen spent £30 more than Joshi.  
 b)  $205 + 175 = 380$   
 They spent £380 altogether.

### Reflect

Answers will vary but children could discuss using one bar to find a part or a whole and using two bars to compare two numbers where one or more of the numbers is unknown.

## My journal

→ page 119

- a) 102  
 b) 950  
 c) 671  
 d) 164

Children will sort them according to how they feel about addition or subtraction and how confident they are in how to rearrange the calculations or use mental methods.

## Power play

→ page 120

Answers will depend on the numbers spun, the addition and where the answers are placed on the number line.



# Unit 4 – Multiplication and division (I)

## I Multiplication – equal groups

→ pages 121–123

- There are **3** bags of apples.  
There are **5** apples in each group.
  - $3 \times 5 = 15$
- $4 \times 2 = 8$  or  $2 \times 4 = 8$
- $2 \times 3 = 6$  or  $3 \times 2 = 6$
  - $2 \times 4 = 8$  or  $4 \times 2 = 8$
  - $2 \times 5 = 10$  or  $5 \times 2 = 10$
- There are 3 eggs in each box, so these groups are equal, even though the eggs are in different places within the boxes.
- |                     |              |
|---------------------|--------------|
| $3 + 3 + 3 + 3 + 3$ | $5 \times 3$ |
| $5 + 5$             | $2 \times 5$ |
| $2 + 2 + 2 + 2$     | $4 \times 2$ |
- Children may show 10 groups of 2 cubes or a 2 by 10 array.
  - Children should make 4 groups of 5 or 5 groups of 4.

### Reflect

Children should explain that equal groups have exactly the same number of items in them and that to find out the total number of items, adding all of the items together gives the same answer as multiplying the number of items in one group by the number of groups.

## 2 Use arrays

→ pages 124–126

- $2 \times 5 = 10$  or  $5 \times 2 = 10$
  - $2 \times 6 = 12$  or  $6 \times 2 = 12$
  - $3 \times 5 = 15$  or  $5 \times 3 = 15$
- Children should draw 5 rows of 4 or 4 rows of 5.
  - $5 \times 4 = 20$
- Children should circle 6 groups of 2.
  - Children should circle 2 groups of 6.
  - Children should circle 4 groups of 3.
- Children draw either 3 rows of 2 triangles or 2 rows of 3 triangles.
- A 3 by 6 or a 6 by 3 array.
  - $6 \times 3 = 18$        $3 \times 6 = 18$

### Reflect

Answers will depend on the arrays drawn. Check that there is an equal number of items in each row.

## 3 Multiples of 2

→ pages 127–129

- 16, 18, 20, 22, 24, 26
  - 30, 32, 34, 36, 38, 40, 42
  - 86, 88, 90, 92, 94, 96, 98
  - 42, 40, 38, 36, 34, 32
- Children should circle: 28, 54, 60, 72.
- Children should colour: 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74
- The last digit should be 0, 2, 4, 6 or 8.
- Four: 26, 52, 56, 62
  - Two: 25, 65
  - Four: 256, 526, 562, 652

### Reflect

Even numbers end in 0, 2, 4, 6 or 8.  
Multiples of 2 end in 0, 2, 4, 6 or 8.  
All multiples of 2 are even numbers.

## 4 Multiples of 5 and 10

→ pages 130–132

- 30, 35, 40, 45, 50
  - 85, 90, ..., 105, 110
  - 240, 245, 250, 255, 260
  - 35, 30, 25, 20, 15
- Children should circle: 15, 60, 145, 320.
- Kate is not correct. Multiples of 5 can end in 0 or 5.  
Multiples of 10 are also multiples of 5.  
390 is a multiple of 5.
- 520, 525
  - Any two different digits 0–9.  
305, 315, 325 ... 395
- 275, 280, 285, 290, 295, 300, 305, 310, 315, 320
- Two of 40, 50, 450, 540
  - 45, 405
  - Two of 40, 50, 450, 540

### Reflect

Sam is correct. The 1s digit is 5 or 0 for all multiples of 5.

## 5 Share and group

→ pages 133–135

- $10 \div 2 = 5$   
5 flowers in each vase.
- $10 \div 2 = 5$   
5 vases are needed.



3. a)  $20 \div 4 = 5$   
There are 5 counters in each group.
- b)  $20 \div 4 = 5$   
There are 4 counters in each group.
- c) The division is the same for both problems but the answer 5 is the number of counters in the first problem and the number of groups in the second problem.
4. a)  $60 \div 5 = 12$   
They get £12 each.
- b)  $60 \div 6 = £10$   
They will get £10 each.
5. a) 2 towers of 6 cubes  
b) 3 towers of 4 cubes  
c) 4 towers of 3 cubes  
d) 5 equal towers cannot be made from 12 cubes.  
12 is not a multiple of 5.

### Reflect

Children should reflect on what the answer to the division means. When sharing, the answer to the division is the number of shared objects in each group. When grouping, the answer to the division is the number of groups of the shared objects

## My journal

### → page 136

- Multiples of 2: 12, 40, 54, 100, 126, 900
- Multiples of 5: 15, 25, 40, 100, 175, 900
- Multiples of 10: 40, 100, 900
- Not multiples of 2, 5 or 10: 17, 77

Children should mention using the 1s digit to decide:

- 1s digits of 0, 2, 4, 6, 8 are multiples of 2.
- 1s digits of 0 or 5 are multiples of 5.
- 1s digit of 0 is a multiple of 10.

## Power play

### → page 137

- Player 3 should find all of their multiples first as there are fewer multiples of 10.
- There are 50 multiples of 2 on a hundred square.
- There are 20 multiples of 5 on a hundred square.
- There are 10 multiples of 10 on a hundred square.
- There are 10 even multiples of 5 on a hundred square.



# Unit 5 – Multiplication and division (2)

## I Multiply by 3

→ pages 138–140

- a) Number line completed to show 8 jumps of 3.  
Numbers 18, 21, 24 added to number line.  
 $8 \times 3 = \mathbf{24}$   
b)  $9 \times 3 = 27$
- $6 \times 3 = 18$
- a)  $3 \times 12 = 36$   
b)  $3 \times 10 = 30$
- $11 \times 3 = 33$
- $13 \times 3$  is 3 more than  $12 \times 3$   
 $12 \times 3 = 36$   
 $36 + 3 = 39$   
 $13 \times 3 = \mathbf{39}$
- Danny is correct because  $1 \times 3 = 3$ ;  $3 \times 3 = 9$ ;  $5 \times 3 = 15$ .  
They are all odd. Odd  $\times$  odd = odd.

### Reflect

Children should write a word problem for  $9 \times 3 = 27$ .

## 2 Divide by 3

→ pages 141–143

- a)  $12 \div 3 = \mathbf{4}$   
b)  $15 \div 3 = 5$   
c)  $9 \div 3 = 3$
- a)  $27 \div 3 = \mathbf{9}$   
b)  $18 \div 3 = \mathbf{6}$
- a) 4  
b) You cannot share 13 between 3 bags as one bag would have 5.  
To share equally, you would need another 2.
- Children could draw a number line to show that 42 is 6 more than 36.  
 $6 = 2 \times 3$ , so 42 is 2 more 3s than 36.  
 $36 \div 3 = 12$   
 $42 \div 3 = 14$
- $18 \div 3 = 6$   
He can make 6 towers of 3 cubes.

### Reflect

Children should explain  $15 \div 3 = 5$  by drawing an array, using a multiplication fact or drawing a picture.

## 3 The 3 times-table

→ pages 144–146

- a)  $5 \times 3 = 15$   
b)  $10 \times 3 = 30$   
c)  $4 \times 3 = 12$
- a) 0  
b) 27  
c) 21  
d) 8
- $7 \times 3 = 21$   
 $3 \times 0 < 21$   
 $8 \times 3 > 21$   
 $12 \times 3 > 21$   
Any number  $< 7$   
 $3 \times 3 < 21$   
 $3 \times 7 = 21$   
Any number  $> 7$   
 $4 \times 3 < 21$
- a) 12  
b) 6  
c) 7  
d) 0  
e) 12  
f) 3  
g) 3  
h) 30
- a)  $>$   
b)  $>$   
c)  $=$   
d)  $<$   
e)  $<$   
f)  $>$   
g)  $<$   
h)  $>$
- Pattern coloured in shows diagonal pattern.

### Reflect

Answers will depend on the numbers on the dice and how quickly children can add and multiple.

## 4 Multiply by 4

→ pages 147–149

- a) Number line completed to show 5 jumps of 4, ending on 20.  
 $5 \times 4 = 20$   
b)  $9 \times 4 = 36$
- |                   |   |   |   |    |    |    |    |
|-------------------|---|---|---|----|----|----|----|
| Number of squares | 0 | 1 | 2 | 5  | 8  | 11 | 12 |
| Number of sides   | 0 | 4 | 8 | 20 | 32 | 44 | 48 |
- $6 \times 4 = 24$
- a)  $7 \times 4 = 28$   
b)  $4 \times 5 = 20$   
c)  $28 + 20 = 48$
- a) 21  
b) 50  
c) 27  
42  
100  
54  
84  
200  
108
- Children may do this in various ways.  
 $7 \times 4 = 28$ ,  $5 \times 4 = 20$ ,  $20 + 28 = 48$   
or  $7 + 5 = 12$ ,  $12 \times 4 = 48$   
or 12, 24, 48

### Reflect

Children may discuss using the 4 times-table, counting in 4s or doubling and doubling again.



## 5 Divide by 4

→ pages 150–152

- $12 \div 4 = 3$
  - Apples ringed into 4s.  
 $16 \div 4 = 4$
- $20 \div 4 = 5$
- Array circled into 8 vertical groups of 4.  
 $32 \div 4 = 8$
- $28 \div 4 = 7$
- $20 \div 4 = 5$
- Jamilla is not correct as  $24 \div 4 = 6$  and  $24 \div 3 = 8$ .  
If the starting number is the same, the bigger the number you divide by, the smaller the answer.
- 64 halved = 32  
32 halved = 16

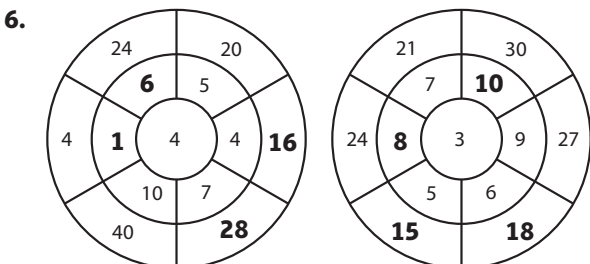
### Reflect

Drawings will vary. For example, a pizza halved then halved again produces 4 pieces.

## 6 The 4 times-table

→ pages 153–155

- $6 \times 4 = 24$
  - $12 \times 4 = 48$
  - $2 \times 4 = 8$
- 20
  - 4
  - 36
  - 12
  - 7
  - 11
  - 0
  - 4
- All numbers except 11 are circled.
  - All the numbers in the 4 times-table are even; 11 is an odd number.
  - Children should explain that the 4 times-table extends beyond  $4 \times 12 = 48$ .  $4 \times 100 = 400$ , so 400 is in the 4 times-table.
- 9
  - 7
  - 10
  - 2
  - 5
  - 8
  - 12
  - 44
- >
  - <
  - =
  - <
  - =
  - <



### Reflect

12, 24, 36, 48, etc. are in both tables. They are groups of 12 (multiples of 12).

## 7 Multiply by 8

→ pages 156–158

- $3 \times 8 = 24$
  - $6 \times 8 = 48$
- $5 \times 8 = 40$
- $7 \times 8 = 56$  kg
- $4 \times 8 = 32$
- 56
  - 32
- 20      40      80      160  
 $20 \times 8 = 160$
  - 37      74      148      296  
 $37 \times 8 = 296$

### Reflect

Children could explain that adding  $6 \times 4 = 24$  and  $6 \times 4 = 24$  gives  $6 \times 8 = 48$ .

Or,  $6 \times 4 = 24$  doubled is the same as  $6 \times 8 = 48$ .

## 8 Divide by 8

→ pages 159–161

- $24 \div 8 = 3$
  - $32 \div 8 = 4$
- $8 \div 8 = 1$
- $48 \div 8 = 6$
- 4      2
  - 10      5
- $32 \div 8 = 4$  or  $4 \times 8 = 32$   
32 counters
- 8 is double 4.  
She is dividing by double the amount, so the answer will be half the amount.  
 $16 \div 4 = 4$ , then  $\div 8 = 2$ .  
 $4 \times 6 = 24$   
 $24 \div 8 = 3$

### Reflect

Children describe putting 16 into 2 groups of 8.  
So,  $16 \div 8 = 2$ .





## 9 The 8 times table

→ pages 162–164

- $2 \times 8 = 16$
  - $1 \times 8 = 8$
  - $4 \times 8 = 32$
- 48
  - 0
  - 96
  - 40
  - 80
  - 8
  - 1
  - 7
- 32    40    56
  - 80    64    56    40
  - 48    56    64    72
  - 32    24    16    8
- 5
  - 3
  - 4
  - 12
  - 9
  - 80
  - 8
  - 0
- >
  - <
  - =
  - =
  - <
  - =
- Square = 8, Triangle = 3  
 $8 \times 3 = 24$

### Reflect

Expect multiplications of numbers 1 to 12, but some children may go beyond.

Column 1: Any multiplications in the form:

$$0 \times 4 = 0, 5 \times 0 = 0, 0 = 6 \times 0, 0 = 0 \times 7.$$

Column 2: Any multiplications with answers 31 to 39:

$$3 \times 11 = 33, 7 \times 5 = 35, 2 \times 17 = 34, 2 \times 19 = 38, 3 \times 13 = 39.$$

Column 3: Any multiplications that equal 40:

$$1 \times 40, 4 \times 10, 5 \times 8.$$

Column 4: Any multiplications with answers > 70:

$$6 \times 12 = 72, 7 \times 11 = 77, 8 \times 10 = 80.$$

Any number multiplied by 0 is 0.

## 10 Problem solving – multiplication and division (I)

→ pages 165–167

- $5 \times 4 = 20$
  - $7 \times 8 = 56$
- $16 \div 4 = 4$
- $24 \div 8 = 3$

4. 

£3	£3	£3	£3	£3
----	----	----	----	----

$$5 \times 3 = 15$$

- $6 \times 8 \text{ kg} = 48 \text{ kg}$   
 The suitcase weighs 48 kg.  
 $48 \text{ kg} \div 4 \text{ (boxes)} = 12 \text{ kg}$   
 Each box weighs **12** kg.

### Reflect

Children should write a multiplication word problem with an answer of 24. For example: An ice-cream costs £3. Mum buys 8 ice-creams. How much does she pay?

## 11 Problem solving – multiplication and division (2)

→ pages 168–170

- $4 \times 3 = 12$
  - $12 + 10 = 22$
- $4 \times 2 = 8$   
 $6 \times 5 = 30$   
 $8 + 30 = 38$   
 There are **38** counters in total.
- Amira:  $2 \times 8 = 16$   
 Jamie:  $6 \times 4 = 24$   
 $24 > 16$   
**Jamie** has more robots.
  - $24 - 16 = 8$   
 Jamie has **8** more robots.
- $7 \times 3 = 21$
  - $40 \div 8 = 5$
- $6 \times 10 = 60$   
 $60 \div 4 = 15$   
**15** piles of 4 cards can be made.

### Reflect

Children should write multiplication and division problems related to the prices of the food items shown. For example: How much do 4 muffins cost? Dad spends £16 on sandwiches, how many sandwiches did he buy?

## 12 Understand divisibility (I)

→ pages 171–173

- Children should draw 2 complete squares then another 3 lines either in a line or as 3 sides of an incomplete square.
  - 2
  - 3
  - 3 r 2



2. a)

Lollipop sticks	Number of pentagons	Remainder
12	2	2
13	2	<b>3</b>
14	<b>2</b>	<b>4</b>
15	<b>3</b>	<b>0</b>
16	<b>3</b>	<b>1</b>
<b>23</b>	4	3

b) The greatest number is 4 because 5 would make another pentagon.

3.  $5 \times 4 + 3 = 23$

### Reflect

The greatest number is 4 because 5 would make another whole.

## 13 Understand divisibility (2)

→ pages 174–176

- 3
  - 1
  - $7 \div 2 = 3$  remainder **1**.
- Children should draw around groups of 3.
  - 2
  - 1
  - $7 \div 3 = 2$  remainder **1**.
- Each child gets 2 apples.  
1 apple is left over.  
 $9 \div 4 = 2$  remainder **1**.
- 7 remainder 1
  - 5 remainder 0
  - 3 remainder 3
  - 3 remainder 0
  - 2 remainder 3
- Children should circle:  $13 \div 3$ ,  $19 \div 4$ ,  $28 \div 10$
- Numbers that are 1 more than a multiple of 4.  
For example: 5, 9, 13, 17.
  - The most the remainder can be when dividing by 5 is 4.  
7 will give another group of 5 with a remainder of 2.
- 24

### Reflect

The numbers are all multiples of 3, so there will be no remainder. A multiple of 3 can be divided exactly by 3 with no remainder.

1 more than a multiple of 3 will have a remainder of 1 when divided by 3. For example, 4, 7, 10, 13.

## My journal

→ page 177

- 30, 40, 50, 60, 70, 80, 90, 100
- 24, 48, 72, 96
- 40
- 60

## Power puzzle

→ pages 178–179

- Wheel top left (clockwise from 7):  
21, 6, 15, 18, 30, 36, 3, 0, 12, 9

Wheel top right (clockwise from 4):  
16, 24, 36, 48, 0, 4, 32, 12, 20, 44

Wheel bottom left (clockwise from 7):  
35, 2, 40, 12, 25, 9, 15, 6, 55

Wheel bottom right,  $\times 8$  in centre (clockwise from 64):  
8, 1, 2, 3, 4, 0, 10, 11, 7, 5
- Wheel top left, multiplications (clockwise from 18):  
complete, complete, 60, 20, 32, 8, 8, 18, 80, 48

Wheel top right, multiplications (clockwise from 5):  
20, 4, 11, 8, 7, 21, 12, 18, 4, 8

Wheel bottom left, multiplications (clockwise from 10):  
 $2 \times 5$  or  $1 \times 10$   
 $5 \times 4$  or  $2 \times 10$   
 $2 \times 4$  or  $1 \times 8$   
 $3 \times 8$  or  $12 \times 2$  or  $6 \times 4$   
 $6 \times 8$  or  $12 \times 4$  or  $16 \times 3$  or  $24 \times 2$   
 $8 \times 4$  or  $16 \times 2$   
 $9 \times 3$   
 $3 \times 3$   
 $10 \times 3$  or  $6 \times 5$  or  $15 \times 2$   
 $10 \times 4$  or  $5 \times 8$  or  $20 \times 2$