Unit 1 – Numbers to 10
1 Sort objects

→ **pages 6–8**

1. a) to c): Children should have sorted groups of rabbits and tortoises; bicycles and footballs; eggs and cars.

2. Children should have sorted groups of large strawberries and small strawberries.

3. a) and b): Children should have sorted groups of balloons and faces; full bottles and empty bottles.

4. Children should have crossed out one item in each group as follows:
a) bicycle
b) pen
c) football
d) chair – alternative answers could be justified, e.g. bicycle because the others all have 4 of something (wheels or legs).

5. Children should have sorted the objects so that every item in each group shares a common feature. There are many possible answers, e.g. animals and non-animals; objects with wings and objects without wings; large and small.

Reflect

Children should have drawn objects organised into groups so that every item in each group shares a common feature. There are many possible answers, e.g. books and furniture. If it is not clear how children have sorted objects, you may need to ask them what is the same about every object in a set.

2 Count objects to 10

→ **pages 9–11**

1. a) 4
b) 6
c) 9

2. a) 2
b) 4
c) 8

3. a) 6 footballs
b) 3 flowers
c) 2 pencils

4. 5

5. a) 6
b) 2

6. 6

Reflect

5, 6, 7, 8, 9, 10

3 Represent numbers to 10

→ **pages 12–14**

1. a) 3
b) 7
c) 9
d) 1

2. a) 8; ten frame with 8 counters filled in.
b) 4; ten frame with 4 counters filled in.

3. a) Ten frame with 6 squares filled in.
b) Ten frame with all 10 squares filled in.
c) Ten frame with 2 squares filled in.

4. Four ten frames showing 4 coloured squares each with different arrangements.

Reflect

Ten frame with squares filled in to match the number written.

4 Count objects from a larger group

→ **pages 15–17**

1. a) Children should have marked any 4 cats.
b) Children should have marked all 6 footballs.
c) Children should have marked any 8 mice.

2. Children should have coloured:
a) 3 trees.
b) 7 umbrellas.
c) 2 apples.

3. Children should have coloured:
a) 5 apples.
b) 5 apples.
c) all 5 apples.

4. Children should have circled, as a group or separately:
a) 3 trees.
b) 4 trees.
c) 5 trees.

Reflect

Playing in pairs, the number cubes should match the number said.

5 Count on from any number

→ **pages 18–20**

1. Children should have written one number in each speech bubble:
a) 1, 2, **3**, **4**
b) 3, 4, **5**, **6**
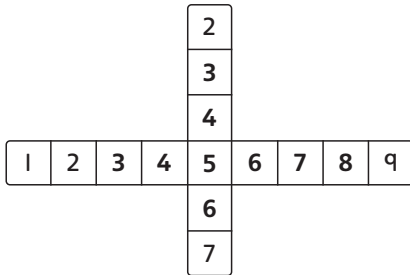c) 6, 7, **8**, **9**

2. Children should have completed the number track with one number in each cell:

5, **6**, **7**, **8**, **9**, **10**

3. Completed ten frames in order:

2, 3, 4 5, 6, 7, 8, 9, 10

4.

					2			
					3			
					4			
1	2	3	4	5	6	7	8	9
					6			
					7			

Reflect

Children to practise counting to 10.

6 One more

→ pages 21–23

1. a)

1	2	3	4

b)

1	2	3	4	**5**

c)

1	2	3	4	5	**6**

d)

1	2	3	4	5	6	**7**

2.

0	1	2	3	**4**	**5**	**6**	**7**	8	9	10

3. Children should have written the number shown in bold in the empty box in each case, as follows:
   a) 2, **3**
   b) 4, **5**
   c) 6, **7**
   d) 8, **9**

4. Children should have written the number shown in bold in the empty box in each case, as follows:
   a) 3, **4**
   b) 9, **10**
   c) **2**, 3
   d) **8**, 9

Reflect

Children should be counting the pencils with their partner saying one more than the number of pencils.

7 Count backwards from 10 to 0

→ pages 24–26

1. Children should have completed the number tracks as follows:

a)

8	7	6	**5**	**4**	**3**	**2**	1

b)

5	**4**	3	**2**	**1**	0

2. Children should have completed the number tracks as follows:

a)

7	6	**5**	4	3	**2**	**1**	**0**

b)

10	**9**	8	**7**	6	**5**

c)

5	**4**	**3**	**2**	1

3. 6, **5**, **4**, **3**, **2**, **1**, 0

4. Children should have completed the sequences as follows:

a)

10	**9**	8	7	6

b)

4	**3**	**2**	**1**	0

c)

6	7	8	**9**	**10**

d)

1	**2**	3	4

5. Children should have completed the sequences as follows:

			7				
			6				
			5				
1	**2**	3	**4**	5	**6**	7	**8**
			3				
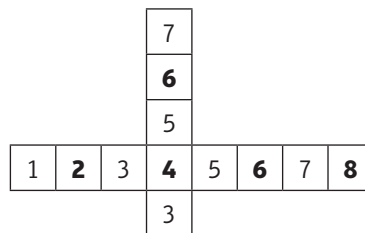
Reflect

Children will have written different sequences depending on the dice roll, e.g.

- Count on to 10 from your dice number:
  4, 5, 6, 7, 8, 9, 10

- Count back to 0 from your dice number:
  4, 3, 2, 1, 0

8 One less

→ **pages 27–29**

1. a)

| 1 | 2 |

b)

| 1 | 2 | 3 | 4 |

c)

| 1 | 2 | 3 | 4 | 5 |

d)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

2.

| 0 | **1** | 2 | 3 | 4 | 5 | **6** | 7 | 8 | **9** | 10 |

3. Children should have written the number shown in bold in the empty box in each case, as follows:
   a) **3**, 4
   b) **7**, 8
   c) **5**, 6
   d) **0**, 1

4. Children should have written the number shown in bold in the empty box in each case, as follows:
   a) 6, **7**
   b) 4, **5**
   c) **5**, 6
   d) **3**, 4

Reflect

Children should be counting the pencils and their partner saying one less than the number of pencils.

9 Compare groups

→ **pages 30–32**

1. Yes. There are 4 children and 4 presents.

2. No. There are 6 mice and 5 pieces of cheese.

3. Children should have drawn 6 worms in the box so that each bird can have a worm.

4. Yes. There are 7 dishes and 9 mugs, so each dish can have a mug but not every mug can have a dish.

5. No. Children should have drawn a line from each child to a separate cake to show that one child does not have a cake. There are not the same number of cakes as children.

Reflect

The answer will vary, depending on the number of counters and pencils given or chosen.

10 Fewer or more?

→ **pages 33–35**

1. Children should have ticked the box next to the hen.

2. Children should have ticked the box next to the banana.

3. Children should have ticked the box next to the cake.

4. Children should have ticked the box next to the mouse.

5. Children should have ticked the box next to the star.

Reflect

Children should have drawn 1, 2, 3 or 4 sweets. 0 is not an answer as it is clear from the question that Tim has sweets, and so at least 1 sweet.

11 <, > or =

→ **pages 36–38**

1. a) $2 < 5$
   b) $4 > 1$
   c) $5 = 5$

2. a) $6 > 3$
   b) $3 < 6$

3. a) Children should have drawn a tower of 4 cubes on the left and a tower of 3 cubes on the right.
   b) Children should have drawn two towers of 4 cubes next to each other.

4. a) $6 = 6$
   b) $4 > 2$

Reflect

Children should draw sets of 2 towers with the correct number sentence underneath. If the tower on the left has more cubes, then > should have been used, for example $4 > 2$.

If the tower on the left has fewer cubes, they should have used the < symbol, for example $2 < 4$.

If both towers are equal they use the = symbol.

12 Compare numbers

→ **pages 39–41**

1. The following numbers should have been circled:
   a) 8
   b) 2
   c) 10
   d) 4

2. The following numbers should have been circled:
   a) 3
   b) 4
   c) 8
   d) 1

3. a) 6 < 8
b) 5 = 5
c) 3 < 10

4. a) 7 = 7
b) 0 < 4
c) 6 > 5
d) 10 > 2

5. a) One of: 0 < 6, 1 < 6, 2 < 6, 3 < 6, 4 < 6, 5 < 6
b) One of: 10 > 9, 10 > 8, 10 > 7, 10 > 6, 10 > 5, 10 > 4, 10 > 3, 10 > 2, 10 > 1, 10 > 0
c) One of: 5 < 6, 5 < 7, 5 < 8, 5 < 9, 5 < 10

Reflect

Answers will vary according to the numbers the children say.

I3 Order objects and numbers

→ **pages 42–44**

1. The following numbers should have been circled:
a) 1
b) 1
c) 4
d) 2

2. The following numbers should have been circled:
a) 2
b) 7
c) 5
d) 2

3. The following numbers should have been circled:
a) 5
b) 4
c) 6
d) 5

4. The following numbers should have been circled:
a) 10
b) 5
c) 9
d) 7

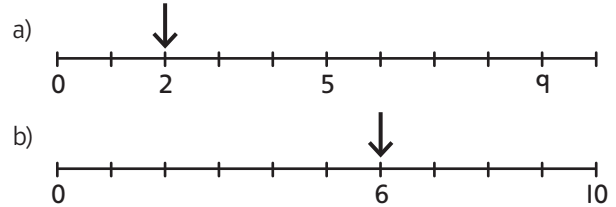**5.** a) 1, 3, 4
b) 1, 4, 5
c) 2, 4, 8
d) 1, 5, 9, 10

Reflect

a) 6, **7**, 8

b) 7, 8, **9**, 10

I4 The number line

→ **pages 45–47**

1. Answers from left to right as follows:
a) 5, 6, 7, 10
b) 0, 2, 5, 9
c) 3, 5, 8

2. Children should have drawn an arrow to the correct mark on the number line.

a)

b)

3. a) 7
b) 2

4. a) 6
b) 9

5. a) 7
b) 4
c) 9, 8, 5, 1

Reflect

There are many possible answers, e.g.
• I have learnt how to use a number line to put numbers in order.
• I have learnt how to use a number line to find one less.

My journal

→ **pages 48–49**

Children should have coloured:
• 5 spotted balloons and 1 plain balloon.
• 3 spotted balloons and 3 plain balloons.

There are several possible answers to the following.

What is the same?
• Bea and Seth have the same number of balloons.
• Bea and Seth both have spotted and plain balloons.

What is different?
• Bea has more spotted balloons than Seth.
• Seth has 3 plain balloons but Bea only has 1.
• 1 is less than 3, 1 < 3, 3 is more than 1, 3 > 1.

Unit 2 – Part-whole within 10

1 Parts and wholes

→ **pages 50–52**

1. a) 2, 1
  b) 5, 2
  c) 3, 3

2. **3** is a part.
  2 is a part.
  The whole is **5**

3. **1** is a part.
  6 is a part.
  The whole is **7**

4. A carrot is cut into 2 parts. Together the parts make a whole carrot.

5. Various answers, depending on how children split the tower, such as:
  1 is a part. 5 is a part. the whole is 6.
  2 is a part. 4 is a part. The whole is 6.

Reflect

Children could respond to this in many ways, but should show understanding that the two parts make the whole.

2 The part-whole model

→ **pages 53–55**

1. a) 3 and 2 as the parts
  b) 4 and 3 as the parts

2. Stick figures: 1 in left circle, 4 in right circle

3. a) 2 and 3 in the parts
  b) 2 and 2 in the parts

4. a) 6 and 1 in the parts
  b) 4 and 3 in the parts
  c) 7 in the whole

5. Possible answers to the parts are:
  4 and 1, 1 and 4
  3 and 2, 2 and 3
  5 and 0, 0 and 5

Reflect

The statement is false. In a part-whole model, the whole is not always the largest number. If one of the parts is 0 then the whole will have the same value as the other part, so is not the largest number. For example, parts of 2 and 0 give a whole of 2.

3 Write number sentences

→ **pages 56–58**

1. a) 3, 2 (parts)
      3 + 2 = 5
  b) 6 (whole); 4, 2 (parts)
      4 + 2 = 6

2. 6 + 1 = 7

3. a) 2 + 7 = 9
  b) 2 + 4 = 6

4. Possible answers for the parts are:
  1 and 4   1 + 4 = 5
  3 and 2   3 + 2 = 5
  2 and 3   2 + 3 = 5
  5 and 0   5 + 0 = 5
  0 and 5   0 + 5 = 5

5. Children should write an addition sentence to reflect the way they have partitioned their counters:
  6 + 0   or   0 + 6
  5 + 1   or   1 + 5
  4 + 2   or   2 + 4
  3 + 3

Reflect

Children should write an addition sentence. They may suggest a part-whole model to reflect their sentence, discussing the parts and the whole. Some children may realise that the addition can be written in any order, so 2 + 5 = 7 is the same as 5 + 2 = 7.

4 Fact families – addition facts

→ **pages 59–61**

1. Children should have written 8 as the whole and 5 and 3 as the parts into the part-whole model and completed the number sentences as follows:
  5 + 3 = 8   8 = 5 + 3
  3 + 5 = 8   8 = 3 + 5

2. Children should have written 7 as the whole and 4 and 3 as the parts into the part-whole diagram and completed four different number sentences as follows:
  4 + 3 = 7   7 = 4 + 3
  3 + 4 = 7   7 = 3 + 4

3. 4 + 2 = 6
  6 = 4 + 2
  2 + 4 = 6
  6 = 2 + 4

4. Children should have written 6 as the whole and 3 and 3 as the parts into the part-whole model. There are only two possible addition number sentences: 6 = 3 + 3 and 3 + 3 = 6. It is possible that some children might have also written the subtraction number sentences: 6 – 3 = 3 and 3 = 6 – 3.

5. 5 = 5 + 0, 0 + 5 = 5, 5 – 0 = 5

Reflect

There are many possible answers. Where the parts have different values, children should have written four addition number sentences, e.g. 2 + 5 = 7, 5 + 2 = 7, 7 = 2 + 5, 7 = 5 + 2. Where the parts have the same value, children should have written two addition number sentences, e.g. 5 + 5 = 10, 10 = 5 + 5. It is possible that some children might include subtraction number sentences, e.g. 10 – 5 = 5 or 5 = 10 – 5.

5 Number bonds

→ pages 62–64

1. a) 4 + **1** = 5
   b) 3 + **2** = 5

2. a) 4 + **2** = 6
   b) 3 + **3** = 6

3. a) 4 + 3 = 7   or   3 + 4 = 7
   b) 5 + 2 = 7   or   2 + 5 = 7
   c) 4 + 4 = 8
   d) 6 + 2 = 8 or 2 + 6 = 8

4. Possible number bonds are: 4 = 0 + 4, 4 = 1 + 3, 4 = 2 + 2, 4 = 3 + 1, 4 = 4 + 0.

5. a) 3 + **6** = 9
   b) 7 + **2** = 9 with 7 cells shaded
   c) **4** + 5 = 9 with 5 cells shaded

Reflect

The number sentence should reflect the way the child has split the tower:

3 + 3 = 6   or   4 + 2 = 6   or   5 + 1 = 6
6 = 3 + 3   or   6 = 4 + 2   or   6 = 5 + 1

6 Find number bonds

→ pages 65–67

1. a) 1 + **3** = 4
   b) 2 + **2** = 4
   c) 3 + 1 = 4

2. a) 1 + 6 = **7**
   b) 2 + 5 = 7
   c) 3 + 4 = 7

3. a) Children should have drawn 2 white beads to show 4 + 2 = 6.
   b) Children should have drawn 5 black beads and 1 white bead to show 5 + 1 = 6.
   c) Children should have drawn 3 black and 3 white beads to show 3 + 3 = 6.

4. a) 8 + 1 = 9
   b) 7 + 2 = 9
   c) 6 + 3 = 9

   d) 4 + 5 = 9
   e) 6 + 3 = 9
   f) 9 + 0 = 9

5. There are many possible answers, e.g. 0 + 8 = 8, 1 + 7 = 8, 2 + 6 = 8, 3 + 5 = 8, 4 + 4 = 8, 5 + 3 = 8, 6 + 2 = 8, 7 + 1 = 8, 8 + 0 = 8, 8 = 0 + 8, 8 = 1 + 7, 8 = 2 + 6, 8 = 3 + 5, 8 = 4 + 4, 8 = 5 + 3, 8 = 6 + 2, 8 = 7 + 1, 8 = 8 + 0. Some children may use subtraction.

Reflect

Children should have drawn beads to show different number bonds to 4.

Possible number bonds are: 4 = 0 + 4, 4 = 1 + 3, 4 = 2 + 2, 4 = 3 + 1, 4 = 4 + 0.

7 Number bonds to 10

→ pages 68–70

1. a) 4 + **6**   d) 7 + **3**
   b) 6 + **4**   e) 3 + **7**
   c) 9 + **1**   f) 1 + **9**

2. a) 7
   b) 5
   c) 4
   d) 1

3. 0

4. 1 and 9, 2 and 8, 3 and 7, 4 and 6.
   10 does not have a pair as it needs 0.
   5 does not have a pair as it needs another 5.

Reflect

Possible bonds are:

10 + 0, 0 + 10, 9 + 1, 1 + 9, 8 + 2, 2 + 8, 7 + 3, 3 + 7, 6 + 4, 4 + 6 and 5 + 5

My journal

→ page 71

There are several solutions. For example:

10 = 1 + 9, 8 = 2 + 6, 7 = 3 + 4

10 = 2 + 8, 7 = 3 + 4, 6 = 5 + 1

10 = 3 + 7, 8 = 2 + 6, 5 = 1 + 4

Power play

→ page 72

Children try to make wholes by placing counters in the parts one by one.

Unit 3 – Addition within 10

1 Add together

→ **pages 73–75**

1. a) 3 + 4 = **7**
   b) 5 + 3 = **8**
   c) 1 + 4 = 5   or   4 + 1 = 5

2. a) 2 + 5 = 7   or   5 + 2 = 7
   b) 3 + 4 = 7   or   4 + 3 = 7
   c) 6 + 1 = 7   or   1 + 6 = 7

3. 4 + 4 = 8

4. a) 1 + 3 = **4**
   b) 2 + 5 = **7**
   c) 3 + 6 = **9**
   d) 4 + 3 = **7**
   e) 1 + 6 = **7**
   f) 5 + 4 = **9**
   g) 6 + 2 = **8**

Reflect

5 + 5 = **10**

Children could have explained different methods, and in different ways, e.g. You can solve 5 + 5 by starting at 5 and counting on 5 or by jumping along a number line or using doubles knowledge or using your fingers.

2 Add more

→ **pages 76–78**

1. a) 5 + 1 = **6**
   b) 4 + 2 = **6**
   c) 2 + 5 = 7   or   5 + 2 = 7

2. a) 6 + 3 = **9**
   b) 7 + 1 = **8**
   c) 5 + 3 = **8**
   d) 2 + 4 = **6**
   e) 1 + 8 = **9**
   f) 4 + 5 = **9**

3. Matched as follows:
   2 + 3   5
   1 + 0   1
   5 + 4   9
   4 + 6   10
   3 + 3   6

Reflect

Children could have explained different methods, and in different ways, e.g. You can solve 8 + 2 by starting at 8 and counting on 2 or by jumping along a number line.

3 Addition problems

→ **pages 79–81**

1. a) 8 + 2 = **10**
   b) 4 + 3 = **7**
   c) 1 + 5 = **6**

2. a) 3 + 3 = 6
   b) 4 + 4 = 8

3. a) 3 + 4 = 7   or   4 + 3 = 7
   b) 3 + 5 = 8   or   5 + 3 = 8
   c) 2 + 5 = 7   or   5 + 2 = 7
   d) 2 + 1 = 3   or   1 + 2 = 3

4. 5 + 2 = 7   or   2 + 5 = 7

5. Children's diagrams will vary but should be based around the number sentence 5 + 5 = 10. They might draw countable objects, a part-whole model or a number line.

Reflect

Children's stories will vary but should be based around the number sentence 4 + 1 = 5.

4 Find the missing number

→ **pages 82–84**

1. a) 2 + **3** = 5   Add 3 more
   b) 4 + **1** = 5   Add 1 more

2. a) 3 + **3** = 6   Add or draw 3 more counters
   b) 2 + **4** = 6   Add or draw 4 more counters

3. a) 1 dot
   b) 2 dots
   c) 3 dots

4. a) 2 + **1** = 3
   b) **1** + 2 = 3

5. 9 + **1** = 10   **8** + 1 = 9
   8 + **2** = 10   **7** + 2 = 9
   7 + **3** = 10   **6** + 3 = 9
   6 + **4** = 10   **5** + 4 = 9

Children should notice the pattern of one more to make 10 and one less to make 9.

Reflect

Children could have explained their methods in different ways, e.g. I could count from 4 up to 7 or I could draw a part-whole model and see how many counters I need in the second part to make 7 altogether. Their number stories will vary but should reflect the addition sentence given.

My journal

Children should circle the number line because it is the only option which does not show doubles.

Power play

Children practise number bonds and have to choose numbers carefully to get different totals.

Unit 4 – Subtraction within 10

1 How many are left? (1)

→ **pages 87–89**

1. a) There are **4** snowmen left.
b) There are **2** apples left.
c) There are **3** candles left.

2. There are **3** apples left.

3. a) There are **5** trees left.
b) There are **7** trees left.

4. **5** birds fly away. **5** birds are left.

5. There are **3** toy cars left.

6. There were **5** balloons at the start.

Reflect

4 – 1 = **3** balloons left.
6 – 2 = **4** trees left.
3 – 1 = **2** birds left.

2 How many are left? [2]

→ **pages 90–92**

1. 6 – 2 = **4**
There are 4 eggs left.

2. a) 8 – 3 = **5**
b) 6 – 5 = **1**

3. a) 4 – 2 = **2**
b) 8 – 4 = **4**

4. a) 10 – 5 = **5**
b) 10 – 7 = **3**

5. a) 7 – 5 = **2**
b) 9 – 6 = **3**
c) 4 – 1 = **3**
d) 8 – 3 = **5**
e) 7 – 5 = **2**
f) 4 – 4 = **0**

Reflect

Children could explain what the subtraction number sentence means in different ways. For example:

• 5 – 2 = 3 can mean that when you start at 5 and count back 2, the answer is 3.

• 5 – 2 = 3 can mean that when you start with 5 objects and subtract 2, there will be 3 objects left.

• Some children might know and use the term 'difference'. 5 – 2 = 3 means the difference between 5 and 2 is 3.

3 Break apart (1)

→ **pages 93–95**

1. 8 – 2 = 6. There are 6 stripey fish. Children should have written 6 in the part-whole model.

2. There are 3 apples and 7 bananas. Children should write 7 and 3 in the part-whole model.

3. The missing digits are:

a) 1
b) 3
c) 5
d) 1

4. a) 2   e) 1
b) 1   f) 6
c) 6   g) 2
d) 7   h) 0

5. Children should fill the missing numbers, 3 and 6, into the part-whole diagram.
9 – 3 = 6, so **6** cubes belong to Mia.

Reflect

Children may use different methods to explain that the missing number is 3, because 8 – 3 = 5. They may use a number line to count on from 5 or back from 8 or complete a part-whole model. Some children may know that they can use 8 – 5 = 3 to show that the value of the missing number is 3.

4 Break apart (2)

→ **pages 96–98**

1. a) 1
b) 5
c) 6
d) 6 – 1 = 5 or 6 – 5 = 1

2. 8 – 5 = 3
3 are not apples.

3. a) 9 – 4 = 5
5 are small mice.
b) 9 – 6 = 3
There are 3 small cats.

4. 9 – 4 = 5
5 cubes are white.

5. a) 1
b) 7

Children should circle the number sentences 5 – 1 = 6 and 4 – 6 = 2, explaining that the 'whole' number comes first in a subtraction sentence: 'whole – part = other part'. The number sentences should start with the whole (6).

5 Fact families

→ **pages 99–101**

1. a) There are **8** frogs in total. **2** are on lily pads. **6** are swimming.
   b) Complete the part-whole model with 2 and 6 in the parts.
   c) 2 + 6 = 8, 6 + 2 = 8, 8 – 2 = 6, 8 – 6 = 2

2. 4 + 6 = 10, 6 + 4 = 10, 10 – 6 = 4 and 10 – 4 = 6

3. Children should write 3 and 2 in the part-whole model.
   3 + 2 = 5, 2 + 3 = 5, 5 – 3 = 2, 5 – 2 = 3

4. 3 + 7 = 10, 7 + 3 = 10, 10 – 3 = 7, 10 – 7 = 3, 10 = 3 + 7, 10 = 7 + 3, 7 = 10 – 3, 3 = 10 – 7

Reflect

There are many possible answers. Children could write number facts from the same number family: If I know 2 + 4 = 6, I also know that 4 + 2 = 6, 6 – 2 = 4, 6 – 4 = 2 or 6 = 4 + 2. Some children could have written facts that are related but use different numbers: If I know 6 – 4 = 2, I also know 6 – 5 = 1.

6 Subtraction on a number line

→ **pages 102–104**

1. a) The kangaroo will land on 4.
   b) The kangaroo will land on 3.

2. 7 – **5** = 2.
   Frog makes 5 jumps

3. a) 9 – 2 = **7**
   b) 10 – 6 = **4**
   c) **6** = 10 – 4

4. a) 5
   b) 1
   c) 6

5. Children should write subtraction pairs with a difference of 5:
   10 – 5, 9 – 4, 8 – 3, 6 – 1 and 5 – 0.
   Some children may include numbers greater than 10, such as 15 – 10 or 16 – 11.

Reflect

Children should identify different subtraction methods and explain them in different ways. For example: I could count back along a number line, I could use an addition fact, I could break the whole number into parts.

7 Add or subtract 1 or 2

→ **pages 105–107**

1. 3 + 1 = **4**   3 + 2 = **5**

2. 4 – 1 = **3**   4 – 2 = **2**

3. a) 4   c) 1
   b) 6   d) 3

4. a) 8   c) 6
   b) 9   d) 5

5. a) 6   g) 4
   b) 8   h) 4
   c) 9   i) 7
   d) 3   j) 1
   e) 7   k) 3
   f) 10   l) 8

6. 3 + 1 → 2 + 2
   6 + 1 → 5 + 2
   5 + 1 → 4 + 2
   8 + 1 → 7 + 2
   9 + 1 → 8 + 2

Reflect

4 + 1 = **5**   4 – 1 = **3**
4 + 2 = **6**   4 – 2 = **2**
Children may notice that 4 + 2 is one more than 4 + 1 and 4 – 2 is one less than 4 – 1.

8 Solve word problems – addition and subtraction

→ **pages 108–110**

1. 8 – 3 = 5
   Zac has **5** sweets.

2. 3 + 5 = 8
   Amy now has **8** cubes.

3. 6 – 2 = 4
   There are **4** apples left.

4. Children should complete the calculations and match each to a picture as follows:
   3 + 2 = **5** → bottom picture
   8 – 3 = **5** → third picture
   5 + 3 = **8** →top picture
   7 – 3 = **4** → second picture

5. Square = 5
   Triangle = 3
   Circle = 2

Reflect

Children could write questions that involve addition or subtraction. For example:

- *There are 3 full glasses and 5 empty glasses. How many glasses are there altogether?*
- *There are 3 full glasses and 5 empty glasses. How many more glasses are empty?*

My journal

→ **page 111**

Fred has rearranged the numbers incorrectly.
$3 - 6 \neq 3$
The facts are $3 + 3 = 6$ and $6 - 3 = 3$ or rearranged so that the answer is first: $6 = 3 + 3$ and $3 = 6 - 3$

Power puzzle

→ **page 112**

There are 11 possible answers:

$5 - 4 = 1, 4 - 3 = 1, 3 - 2 = 1, 2 - 1 = 1, 1 - 0 = 1$
$0 + 5 = 5, 1 + 4 = 5, 2 + 3 = 5, 3 + 2 = 5, 4 + 1 = 5,$
$5 + 0 = 5$

Unit 5 – 2D and 3D shapes

I Recognise and name 3D shapes

→ **pages 113–115**

1. Children should circle:
   a) first and fourth shapes (cubes)
   b) first and third shapes (pyramids)

2. Children should circle:
   a) cylinder
   b) second shape (cuboid which is not a cube)
   c) cube

3. a) There are **4** cubes.
   b) There are **3** spheres.
   c) There are **2** cylinders.

4. cube, cuboid, sphere, pyramid

Reflect

Children's answers will vary but they should be able to compare and identify the shapes of objects at school and home, e.g. a football is a sphere, a bed is a cuboid.

2 Sort 3D shapes

→ **pages 116–118**

1. top shape → pyramid
   second shape → cylinder
   third shape → cube
   bottom shape → cuboid

   The cube could also be matched to the name cuboid because all cubes are also cuboids. However, children in Year 1 are unlikely to suggest this.

2. Children should circle the second and third shapes.

3. Children should tick the first and third sentences.

4. Children should match the boxes and objects as follows:

   First box → second set of objects
   Second box → third set of objects
   Third box → first set of objects

5. Children should write the letters into the hoops as follows:

   Pyramids: E, G
   Spheres and cylinders: C, D, H, I
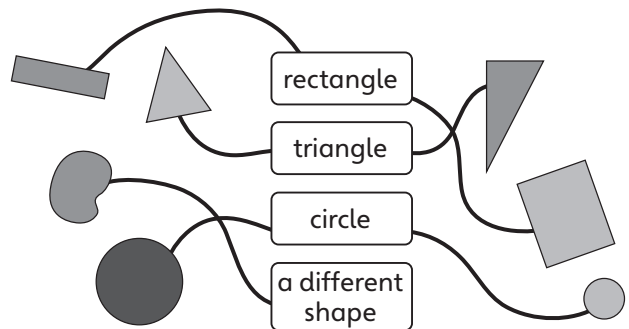   Cuboids: A, B, F, J

Reflect

Different answers are possible. The most likely shapes for children to name are cube, cuboid, sphere, cylinder and pyramid.

3 Recognise and name 2D shapes

→ **pages 119–121**

1. Children should match shapes to names as follows:

2. Children should circle the following shapes:
   a) 3rd shape (non-square rectangle)
   b) 2nd shape (oval)
   c) 3rd shape (square)
   d) 4th shape (has curved side). However, other answers are possible (such as the first shape has an even number of sides) so justification should be requested for alternatives.

3. (top row) square, triangle, circle
   (bottom row) rectangle, triangle

4. Children should arrange 6 squares into a 3×2 grid, a 2×3 grid, a 1×6 grid or a 6×1 grid.

5. a) There are **7** circles.
   b) The most likely answer is **6**, but alternative answers are possible if the rectangles that represent the ground, sky and whole picture are included.
   c) There are **10** triangles.

Reflect

(from left to right) circle, rectangle, square, triangle

4 Sort 2D shapes

→ pages 122–124

1. Children should join the 3D shapes as follows:

cube → square
cuboid → rectangle or square
pyramid → triangle
cone → circle

2. Children should cross out the following 2D shapes:

a) Cube: non-square rectangle
(right-hand shape)

b) Pyramid: right-angled triangle
(second shape from left)

3. a) cube
b) pyramid
c) circle or circular
d) circle or triangle
e) cone

4. The top shape is made from a **rectangle** and a **triangle**.

The middle shape is made from a **rectangle** and two **circles**.

The bottom shape is made from a **circle** and a **triangle**. Children may also say a circle and three triangles.

5. The children should match the shape with when it was printed as follows:

rectangle → first and sixth
square → third
triangle → fourth
circle → second and fifth

Reflect

Children should match names and shapes as follows: square → fourth shape; cube → second shape; cuboid → fifth shape; rectangle → third shape; triangle → first shape; pyramid → sixth shape.

The above answers show the most likely matchings. However, the word cuboid could also be matched to the second shape since all cubes are also cuboids. Similarly, the word rectangle could also be matched to the fourth shape since all squares are also rectangles.

5 Make patterns with shapes

→ pages 125–127

1. a) large square, small square
b) square containing rectangle sloping downwards to the right, square containing rectangle sloping downwards to the left
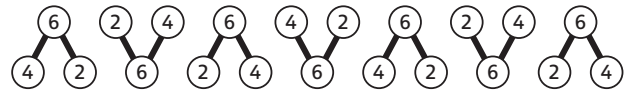
2. a) B
b) B

3. a) Children should circle the shapes in groups of 3. The pattern has **3** repeating shapes.
b) Children should have circled the shapes in groups of 4. The pattern has **4** repeating shapes.

4. a) B
b) B

5. a)

b)

Reflect

Answers will vary.

Examples include: square, triangle, square, triangle, square … (pattern has two repeating shapes); square, square, triangle, square, square, triangle … (pattern has three repeating shapes).

My journal

→ page 128

Children should indicate that it belongs in the first group as it is a 3D shape, not a 2D shape. Children may also mention that it has one face shaded darker than the other faces.

Power puzzle

→ page 129

Children should create four different coloured patterns. Make sure they do not use the same colour for the same shape every time.