



Unit 6 – Numbers to 20

I Count to 20

→ pages 6–8

- 2, 3, 4, 5, **6, 7, 8**
 - 11, 12, 13, **14, 15, 16, 17**
 - 7, 8, 9, **10, 11, 12, 13**
- Mia missed out number 17.
- There are 12 footballs.
- There are 17 mice.
- 10, 11, 12, **13, 14, 15, 16, 17**
 - 6, 7, **8, 9, 10, 11, 12, 13**
- Children should join the dots 1 to 20 to reveal the outline of a car.
- 20, 19, 18, **17, 16, 15, 14, 13, 12, 11**
 - Top row: 1, 2, 3, 4, **5, 6, 7, 8, 9, 10**
Bottom row: 11, **12, 13, 14, 15,** 16, 17, **18, 19,** 20

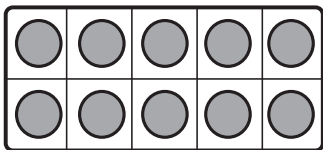
Reflect

Children should count up from 1 to 20 and back from 20 to 1 as a class.

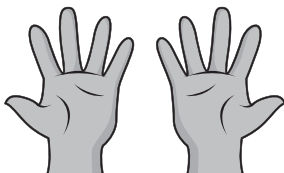
2 Understand 10

→ pages 9–11

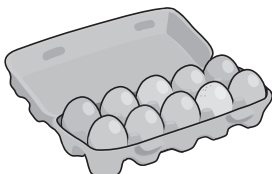
- Children should draw one counter in each of the 8 empty cells.
- Children should fill the ten frame with counters.
 - 10 counters will fill the ten frame.
 - Children should explain that there is not enough space for more than 10 counters.
- The ten frame on the left shows 10.



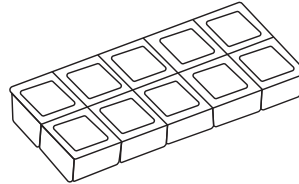
- The hands on the right show 10 fingers.



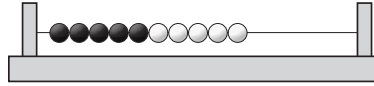
- The eggs on the right show 10 eggs.



- The block on the left shows 10 cubes.



- The rekenrek on the left shows 10 beads.



- Children should shade all 10 circles.
- Children could circle or colour in 2 rows of 10 beads, or 10 white and 10 black beads.

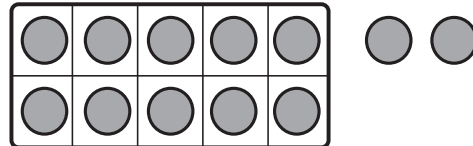
Reflect

Children should show 10 in a variety of ways, such as a ten frame, ten cubes or ten fingers.

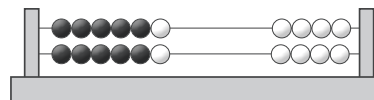
3 11, 12 and 13

→ pages 12–14

- Children should draw 1 counter in the empty ten frame to make 11.
 - Children should draw 2 counters in the empty ten frame to make 12.
 - Children should draw 3 counters in the empty ten frame to make 13.
- 1 ten frame and 2 counters shows 12.



- There are 12 bees.
 - There are 13 stars.
 - There are 12 counters.
 - There are 11 apples.
- There are 13 fingers.
- The rekenrek on the right shows $12 = 6 + 6$.



- $10 + 1 = 11$
 $10 + 2 = 12$
 $10 + 3 = 13$

Reflect

Children's answers will depend on how they arrange the counters. If they arrange the counters in a set of 10 plus 2 extra, they may explain that they can just count on from 10.



4 14, 15 and 16

→ pages 15–17

- Children should draw 4 counters in the empty ten frame to make 14.
 - Children should draw 5 counters in the empty ten frame to make 15.
 - Children should draw 6 counters in the empty ten frame to make 16.
- There are 16 footballs.
- There are 15 stars.
 - There are 15 counters.
 - There are 14 apples.
 - There are 15 dots on the dice.
- The number 14 is shown: $7 + 7 = 14$.
 - The number 15 is shown: $10 + 5 = 15$.
- $10 + 4 = 14$
 - $10 + 5 = 15$
 - $10 + 6 = 16$
 - $10 + 3 = 13$

Reflect

Children's answers will depend on how they arrange the counters. If they arrange the counters in a set of 10 plus 5 extra, they may explain that they can just count on from 10.

5 17, 18 and 19

→ pages 18–20

1.

- Children should draw 8 counters in the empty ten frame to make 18.
- There are 17 apples.
 - There are 19 cars.
- The number 18 is shown.
 - The number 18 is shown.
 - The number 19 is shown.
- True. They have both made the number 17.
- $10 + 6 = 16$ b) $10 + 3 = 13$
 - $10 + 7 = 17$ $10 + 7 = 17$
 - $10 + 8 = 18$ $10 + 8 = 18$
 - $10 + 9 = 19$ $4 + 10 = 14$

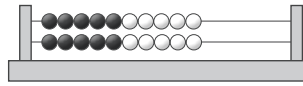
Reflect

Children should work in pairs. See if children show their number as 10 and some more or as an unorganised set of counters.

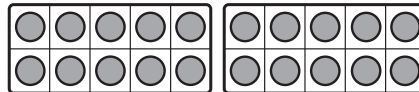
6 Understand 20

→ pages 21–23

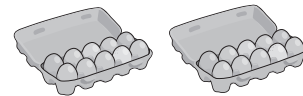
- Children should draw 5 more counters to complete the second ten frame.
- All fingers on all hands should be shaded to show 20.
 - 4 sets of 5 dots is the best way to shade 20. Some children may shade 20 more randomly.
- The top diagram shows 20.



- The bottom set of ten frames shows 20.



- The left diagram shows 20 eggs.



4. a)

20	
10	10

- $10 + 10 = 20$

- There are 20 apples.

Reflect

Children should show 20 in a variety of different ways. Look out for examples that show $10 + 10$.

7 One more and one less

→ pages 24–26

- One more than 15 is 16.
 - One less than 13 is 12.
- There are 13 cars now.
- One more than 14 is 15.
 - One more than 11 is 12.
 - One more than 19 is 20.
 - One more than fifteen is sixteen.
- One less than 12 is 11.
 - One less than 16 is 15.
 - One less than 20 is 19.
 - One less than seventeen is sixteen.



5. Hiro has 11 balloons now.
6. a) 1 more than 7 is 8.
b) 1 more than 16 is 17.
c) 1 less than 10 is 9.
d) 1 less than 20 is 19.
7. a) 14 is 1 less than 15.
b) 18 is 1 more than 17.

Reflect

Children’s answers will vary depending on the number they have written in the middle box.

8 The number line to 20

→ pages 27–29

1. 11, 12, 13, **14, 15, 16, 17, 18**
2. 7, 8, 9, **10, 11, 12, 13, 14**
3. a) 1, 2, 3, **4, 5, 6, 7, 8, 9, 10**
b) 11, 12, 13, **14, 15, 16, 17, 18, 19, 20**
4. a) 10, 11, 12, 13, **14, 15, 16, 17, 18, 19, 20**
b) 7, 8, 9, **10, 11, 12, 13, 14, 15, 16**
c) 1, 2, 3, 4, **5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15**
5. 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
6. a) 1 more than 17 is 18.
b) 1 more than 12 is 13.
c) 1 less than 16 is 15.
d) 1 less than 20 is 19.

Reflect

Children should draw their own number line to show 11 to 20 and count along it with a partner.

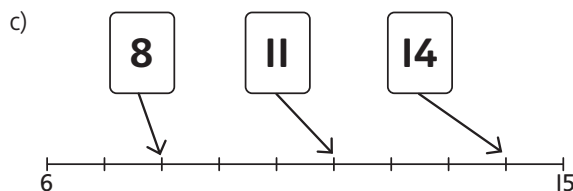
9 Label number lines

→ pages 30–32

1. a) 11, 12, **13**, 14, **15**, 16, 17, **18**, 19, 20
b) 11, 12, 13, **14**, 15, 16, **17**, 18, 19, 20
c) 6, 7, 8, **9**, 10, **11**, 12, **13**, 14, 15
d) 1, 2, 3, **4**, 5, 6, **7**, 8, **9**, 10, 11, **12**, 13, 14

2. a)

b)



3. The arrow is pointing to number 15.

4. a) The arrow is pointing to number 15.



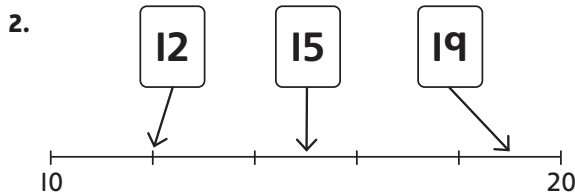
Reflect

11, 12, 13, 14, 15, 16, 17, 18 and 19 can be written on the interval lines on this number line.

10 Estimate on a number line

→ pages 33–35

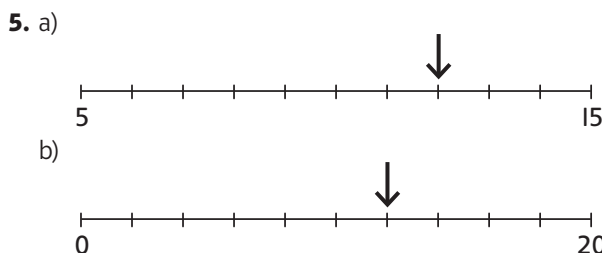
1. a) The arrows are pointing to 12, 15 and 19.
b) The arrows are pointing to 1, 7 and 9.



3. a) The arrows are pointing to approximately 1, 5 and 8.
b) The arrows are pointing to approximately 11, 15 and 18.

One line is numbered 0 to 10, the other is 10 to 20. The missing numbers are in the same place on both lines. The 1s digit of the missing numbers is the same on both lines.

4. The arrows are pointing to approximately 5, 10 and 19.




Reflect



Children should draw their own number line from 10 to 20. They should mark the intervals but not label them.



11 Compare numbers to 20

→ pages 36–38

- a) The second child has fewer. 

b) The second child has more. 
- The first child has fewer. Children should explain that the first child has fewer spread out over the same amount of space. $6 < 11$. 
- Children should tick the larger number in each pair:

 - 18
 - 19
 - 20
- Children should tick the smaller number in each pair:

 - 6
 - 18
 - 15
- a) 15 is **greater** than 13.
 b) 17 is **less than** 19.
 c) $10 + 5$ is **greater than** $10 + 4$.
 d) 6 is **less than** 16.
- a) $15 > 13$ c) $3 < 13$
 b) $17 < 19$ d) $19 > 5$
- $13 < 20$
 $12 > 9$
 $15 = 15$

Reflect

Many answers are possible, such as $11 < 14$, $15 > 12$.

12 Order numbers to 20

→ pages 39–41

- a) There are 20 cubes.
 There are 14 cubes.
 There are 6 cubes.

b) 20 is the largest number.
 c) 6 is the smallest number.
- From smallest to largest: 8, 10, 15.
- From largest to smallest: 15, 12, 9.
- a) From smallest to largest: 4, 9, 14.
 b) From smallest to largest: 5, 7, 19, 20.
- a) Jo has the most stickers.
 b) Kat has the fewest stickers.
- $12 < 17 < 20$
- Answers will vary. Bilal has 15 or more. Sam has at least one more than Bilal.

Reflect

From smallest to largest: 9, 16, 18.

From largest to smallest: 18, 16, 9.

My journal

→ page 42

Thirteen is the odd one out because the others all total 15.

Power puzzle

→ page 43

There are various possible answers for the middle numbers in each row and column, but the first and last are set. For example:

$9 < 12 < 19$	$9 < 13 < 19$	$9 < 13 < 19$
$10 < 13 < 18$	$10 < 14 < 18$	$10 < 15 < 18$
$11 < 14 < 17$	$11 < 15 < 17$	$11 < 16 < 17$



Unit 7 – Addition and subtraction within 20

I Add by counting on within 20

→ pages 44–46

- a) $6 + 2 = 8$
 b) $9 + 3 = 12$
- a) $11 + 3 = 14$
 b) $14 + 2 = 16$
- a) $9 + 2 = 11$
 b) $11 + 2 = 13$
 c) $12 + 3 = 15$
- a) $10 + 3 = 13$
 b) $11 + 3 = 14$
 c) $14 + 5 = 19$
 d) $7 + 5 = 12$
 e) $8 + 7 = 15$
- a) $5 + 8 = 13$
 Children should notice that $5 + 8 = 8 + 5 = 13$.
- a) $14 + 4 = 18$
 b) $4 + 9 = 13$

- f) $8 + 4 = 12$
 g) $4 + 8 = 12$
 h) $2 + 5 = 7$
 i) $4 + 7 = 11$
 j) $8 + 8 = 16$

Reflect

$5 + 9 = 14$

Children could suggest counting on 9 from 5 or, more efficiently, counting on 5 from 9.

2 Add ones using number bonds

→ pages 47–49

- a) $13 + 2 = 15$
 b) $15 + 3 = 18$
 c) $12 + 5 = 17$
- a) $13 + 2 = 15$
- a) $4 + 2 = 6$
 b) $4 + 3 = 7$
 c) $6 + 3 = 9$
- a) $12 + 6 = 18$
- a) $12 + 4 = 16$
 b) $13 + 5 = 18$
 c) $18 = 16 + 2$
- a) $13 + 3 = 16$
 b) $15 = 13 + 2$
 c) $19 = 2 + 17$
 d) $10 + 6 = 16$

Children should notice that the 1s digit stays the same each time.

- a) $14 + 2 = 16$
 b) $14 + 3 = 17$
 c) $16 + 3 = 19$

- a) $2 + 14 = 16$
 b) $3 + 15 = 18$
 c) $18 = 12 + 6$

- a) $3 + 12 = 15$
 b) $16 + 2 = 18$
 c) $10 + 6 = 16$
 d) $16 + 0 = 16$

Reflect

Ari: $14 + 5 = 19$ $4 + 15 = 19$
 Oliver: $13 + 2 = 15$ $3 + 12 = 15$

3 Find and make number bonds to 20

→ pages 50–52

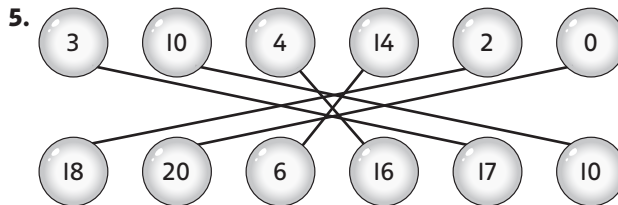
1. a) There are **11**

There are **9**

- a) $11 + 9 = 20$
- a) $5 + 15 = 20$
- a) $12 + 8 = 20$
 b) $11 + 9 = 20$
 c) $18 + 2 = 20$

- a) $4 + 6 = 10$
 b) $2 + 8 = 10$
 c) $10 = 6 + 4$
 d) $3 + 7 = 10$

- a) $4 + 16 = 20$
 b) $12 + 8 = 20$
 c) $20 = 6 + 14$
 d) $3 + 17 = 20$



- Triangle = 11
 Star = 9

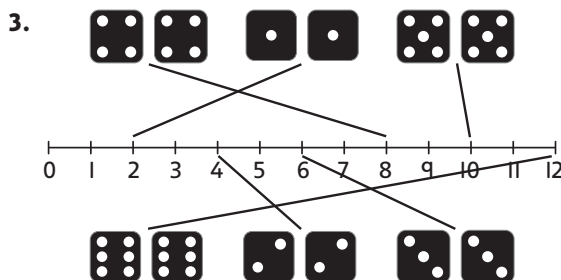
Reflect

Children should find: $0 + 20 = 20$, $1 + 19 = 20$, $2 + 18 = 20$, $3 + 17 = 20$, $4 + 16 = 20$, $5 + 15 = 20$, $6 + 14 = 20$, $7 + 13 = 20$, $8 + 12 = 20$, $9 + 11 = 20$ and $10 + 10 = 20$. Also accept reversals, for example, $20 + 0 = 20$.

4 Doubles

→ pages 53–55

- a) $2 + 2 = 4$
 b) $1 + 1 = 2$
- a) $4 + 4 = 8$
 b) $3 + 3 = 6$
- a) $5 + 5 = 10$
 b) $6 + 6 = 12$





4. Pictures will vary but should show two clear sets of 7.
5. $5 + 5 = 10$
 $6 + 6 = 12$
 $7 + 7 = 14$
 $8 + 8 = 16$
 $9 + 9 = 18$
 $10 + 10 = 20$

Reflect

Answers will depend on how confident children are with doubles.

5 Near doubles

→ pages 56–58

1. a) $2 + 2 = 4$ $3 + 2 = 5$
 b) $3 + 3 = 6$ $4 + 3 = 7$
 c) $4 + 4 = 8$ $5 + 4 = 9$
 d) $5 + 5 = 10$ $6 + 5 = 11$
2. a) $4 + 5 = 9$ b) $3 + 4 = 7$ c) $5 + 6 = 11$
3. a) $3 + 2 = 5$ b) $1 + 2 = 3$ c) $5 + 4 = 9$

4. Children should draw one counter in the bottom row of each ten frame.

- a) $6 + 6 = 12$
 $6 + 7 = 13$
 b) $7 + 7 = 14$
 $7 + 8 = 15$
 c) $8 + 8 = 16$
 $8 + 9 = 17$
5. a) $6 + 6 = 12$ $7 + 6 = 13$
 b) $7 + 7 = 14$ $8 + 7 = 15$
 c) $8 + 8 = 16$ $9 + 8 = 17$
 d) $9 + 9 = 18$ $10 + 9 = 19$

Reflect

Doubles are the even numbers: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20.

Near doubles have a difference of 1 so are odd numbers: 3, 5, 7, 9, 11, 13, 15, 17, 19.

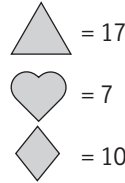
6 Subtract ones using number bonds

→ pages 59–61

1. $15 - 4 = 11$
2. $18 - 5 = 13$
3. a) $17 - 3 = 14$
 b) $18 - 8 = 10$
 c) $20 - 7 = 13$
 d) $15 - 3 = 12$

4. a) $9 - 5 = 4$ c) $7 - 3 = 4$
 $19 - 5 = 14$ $17 - 3 = 14$
 b) $6 - 4 = 2$ d) $5 - 0 = 5$
 $16 - 4 = 12$ $15 - 0 = 15$

5. $19 - 2 = 17$
 $19 - 7 = 12$
 $17 - 7 = 10$



Reflect

Possible answers are 9 and 3, 8 and 2, 7 and 1, 6 and 0. For example, $9 - 3 = 6$ and $19 - 3 = 16$.

7 Subtraction – counting back

→ pages 62–64

1. a) $15 - 7 = 8$
 b) $12 - 3 = 9$
 c) $17 - 8 = 9$
 d) $13 - 6 = 7$
2. $11 - 5 = 6$
 There are 6 butterflies left.
3. a) $12 - 4 = 8$
 b) $13 - 5 = 8$
 c) $14 - 7 = 7$
4. a) $15 - 10 = 5$ d) $18 - 10 = 8$
 b) $15 - 12 = 3$ e) $17 - 12 = 5$
 c) $18 - 15 = 3$ f) $19 - 15 = 4$

Reflect

Various explanations are possible, such as:

- Using the fact $7 - 3 = 4$
- Counting back from 17 to 14
- Counting on from 13 to 17
- Using a number line.

$17 - 13 = 4$

8 Subtraction – finding the difference

→ pages 65–67

1. $7 - 3 = 4$
 There are 4 more ducks than frogs.
2. $7 - 4 = 3$
 There are 3 fewer cakes than plates.
3. a) Children should record the jump from 3 to 7.
 b) The difference between 7 and 3 is 4.



4. Meg's tower has either 4 or 6 cubes.
5. a) 7 is 2 less than **9**.
 b) **8** is 5 more than 3.
 c) The difference between 9 and 6 is **3**.
 d) 8 is **0** more than 8.
6. a) $15 - 14 = 1$ c) $19 - 16 = 3$
 b) $13 - 11 = 2$ d) $20 - 19 = 1$

Reflect

Answers depend on the number of counters taken by each child.

9 Related facts – fact families

→ pages 68–70

1. a) $16 + 4 = 20$
 $4 + 16 = 20$
 b) $12 + 4 = 16$
 $4 + 12 = 16$
 c) $10 + 10 = 20$
2. $8 + 5 = 13$
 $5 + 8 = 13$
 $13 - 8 = 5$
 $13 - 5 = 8$
3. $15 = 9 + 6$
 $15 = 6 + 9$
 $6 = 15 - 9$
 $9 = 15 - 6$
4. a) Rabbit has to jump **9** to get from 11 to 20.
 b) Frog was on number **9**.
5. $8 + 4 = 12$ $4 + 8 = 12$
 $12 - 8 = 4$ $12 - 4 = 8$
 $12 = 8 + 4$ $12 = 4 + 8$
 $8 = 12 - 4$ $4 = 12 - 8$

Reflect

Answers will vary depending on the squares the children shade.

They should write at least 2 addition and 2 subtraction facts.

10 Missing number problems

→ pages 71–73

1. a) $9 + 4 = 13$ b) $12 + 8 = 20$
 $4 + 9 = 13$ $8 + 12 = 20$
 $4 + 9 = 13$ $12 + 8 = 20$
2. a) $3 + 2 = 5$
 b) $1 + 4 = 5$
 c) $1 + 8 = 9$

3. a) $13 - 6 = 7$ b) $17 - 7 = 10$
 $13 - 6 = 7$ $17 - 10 = 7$
 $13 - 7 = 6$ $17 - 10 = 7$
4. a) $10 - 8 = 2$
 b) $8 - 6 = 2$
 c) $12 - 3 = 9$

5. There are many possible answers. Pairs of numbers must have a difference of 2. For example, $5 - 3$, $10 - 8$, $19 - 17$.

Reflect

These number sentences have a missing number of 5:

- $6 - \text{cloud} = 1$ $20 - \text{diamond} = 15$
 $1 + \text{star} = 4$. The missing number is 3.
 $10 - \text{heart} = 4$. The missing number is 6.

11 Solve word and picture problems – addition and subtraction

→ pages 74–76

1. $12 + 6 = 18$
 Ellie has **18** pieces of fruit in total.
2. $8 + 5 = 13$
 There are **13** bees.
3. $14 - 6 = 8$
 There are **8** cakes.
4. $11 - 7 = 4$
4 seeds do not grow.
5. $6 + 9 = 15$
 Jane has 15 balloons.
 Gino has more balloons than Jane because 16 is more than 15.

Reflect

Children should write stories based on one of the facts. For example:

- Max has 7 cars and Ollie has 8 cars. How many cars do Max and Ollie have in total?
- There are 15 birds in the tree. 3 fly away. How many birds are left?



My journal

→ page 77

Various explanations are possible, such as using their number bonds to 10 or counting on or back using a number line for the star. Children should then subtract 3 from 20 to find the value of the triangle (17) and then add 1 to 17 to find the value of the square (18).

$$\star = 3$$

$$\triangle = 17$$

$$\square = 18$$

Power puzzle

→ page 78

15	+	5	=	20
-				
6				
=				
9				

5	+	10	=	15
-				
3	+	2	=	5
=		=		
2		8		



Unit 8 – Numbers to 50

I Count to 50

→ pages 79–81

- There are 22 apples.
- There are 27 bricks.
- 34, 35, 36, **37, 38, 39, 40**
- a) 20, 21, 22, **23, 24, 25**
b) 17, 18, **19, 20, 21, 22, 23**
c) **37, 38, 39, 40, 41**
d) 50, **49, 48, 47, 46, 45, 44**
- Anna has continued counting 8, 9, 10 instead of changing the tens digit from 3 to 4.
- Children should draw 5 more circles. They could complete 2 more rows of 10 and one row of 9.

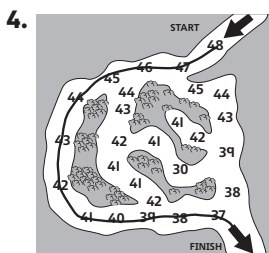
Reflect

Children should count up to 50 and back to zero from their chosen number.

2 Numbers to 50

→ pages 82–84

- a) 17, 18, 19, **20, 21, 22, 23, 24**
b) 40, 41, 42, **43, 44, 45, 46, 47**
c) 35, 34, 33, **32, 31, 30, 29, 28**
- The missing numbers are 33, 34, 35, 36.
- The missing numbers are 12, 13, 14 and 34, 35, 36, 37, 38, 39.



- is on 28 and ○ is on 37.
- Children should complete one track counting up and one track counting back:
35, 36, 37, 38, 39, 40, 41, 42
35, 34, 33, 32, 31, 30, 29, 28

Reflect

Children should count out loud from 19 to 28 and from 43 to 32.

3 20, 30, 40 and 50

→ pages 85–87

- a) There are 20 eggs.
b) There are 30 eggs.
c) There are 40 eggs.
d) There are 50 eggs.
- There are 40 biscuits.
- a) 30
b) 50
c) 40
d) 20
- Children should circle 4 sets of 10 beads.
- 0, 10, 20, **30, 40, 50**
- Max is correct. Each ten frame is full, so he can count in tens: 10, 20, 30.

Reflect

Children should draw or make 20 in a variety of ways, for example, 2 complete ten frames, 2 sticks of 10 cubes, 20 objects, a part-whole model.

4 Count by making groups of 10s

→ pages 88–90

- a) 10, 20, 21, **22, 23**
b) **10, 20, 30, 40, 41, 42**
- 10, 20, 30, 31, 32, 33, 34, 35**
- a) There are 34 apples.
b) There are 26 apples.
- Children should circle 2 complete ten frames and 5 single footballs.
- a) 36
b) 49
- Children should draw 4 more circles in the last ten frame.

Reflect

If children follow the lesson examples, they will show 37 as 3 complete ten frames and 7 circles in a fourth ten frame. They should explain counting tens and ones to a partner.



5 Groups of 10s and 1s

→ pages 91–93

- There are 25 pens.
 - There are 32 eggs.
 - There are 45 apples.
- There are 38 marbles.
- Children circle 3 boxes and 2 single eggs.
- Children circle 2 bags and 8 single pears.
- 45
 - 38
- Ned has made the number 47. There are 4 sets of 10 beads and 7 single beads.
- Ali could have 4 complete bags and take 3 apples out of the last bag.

Reflect

If children use sets of 10, then both children should have 3 ones but the partner should have one extra set of 10.

6 Partition into 10s and 1s

→ pages 94–96

- 2 tens and 4 ones is **24**.
 - 3 tens and 4 ones is **34**.
 - 4 tens and 4 ones is **44**.
- 2 tens and 7 ones is **27**.
 - 3 tens and 5 ones is **35**.
- The missing part is **6**.
 - The missing parts are **40** and **9**.
 - The missing parts are **20** and **4**.
 - The missing whole is **38**.
- 2 tens and 3 ones is **23**.
 - 4 tens and 1 one is **41**.
 - 27 is **2** tens and **7** ones.
 - 32 is **3** tens and **2** ones.
 - 5 tens is **50**.

Reflect

Children should show 34 in different ways: make it using base 10 equipment, draw it using ten frames, write it in words (3 tens and 4 ones) and partition it using a part-whole model.

7 One more, one less

→ pages 97–99

- One more than 24 is 25.
 - One less than 32 is 31.
- 26 apples are left.
- 27
 - 36
 - 50
 - 20
- 28
 - 31
 - 39
 - 45
- 24
 - 39
 - 44
 - 28
- 46, 47, 48**
- One more than 36 is **37**.
 - One more than **35** is 36.
 - One less than 20 is **19**.
 - One less than **21** is 20.

Reflect

Children's answers will vary depending on the number they have written in the middle box.

My journal

→ page 100

Make it using addition: $30 + 2 = 32$

Draw it using objects: Children should use base ten equipment or ten frames to illustrate 3 tens and 2 ones.

Part-whole model: The parts are 30 and 2.
3 tens and 2 ones.

Power play








→ page 101

Children may need an adult to check that they have made and read the numbers correctly.

Unit 9 – Introducing length and height

I Compare lengths and heights

→ pages 102–104

- Children should draw two taller trees, with the tallest in the third box.
- Children should draw one shorter house (in the first box) and one taller house (in the third box).
- Children should draw a worm that is shorter than the one shown.
 - Children should draw a worm that is longer than the one shown.
- Children’s answers will vary depending on the objects they have found.
- The  is taller than the .
 - The  is shorter than the .
 - The  is taller than the  and .

Reflect

Children should draw a leaf that is longer than the one in their book.

2 Measure length (non-standard units of measure)

→ pages 105–107




- The plane is **6** cubes long.
 - The giraffe is **7** cubes tall.
 - The train is **4** cubes tall.
The train is **6** cubes long.
- The house is about **4** cubes tall.
 - The snake is about **6** cubes long.
- Children should draw more springs until it measures 8 cubes.
 - Children should draw a hat on the bear to make it 5 cubes tall.
- The bear is **10** cubes tall.
The drum is **4** cubes tall.
- Children should draw a figure with a head level to the top of the tower of cubes and feet level with the bottom of the tower of cubes.
 - Children should draw a figure with a head level to the top of the tower of cubes and feet level with the bottom of the tower of cubes.

Reflect

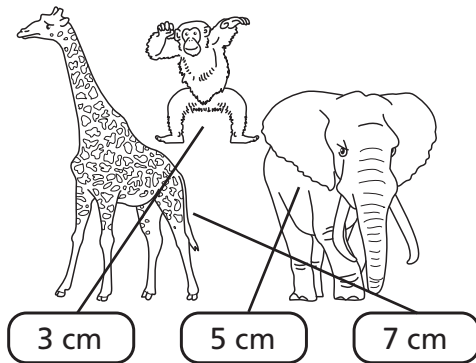
Children should explain how to line up the cubes with the object being measured and whether they are measuring how long or how tall their object is.

3 Measure length (using a ruler)

→ pages 108–110

- The  is **11** cm long.
 - The  is **8** cm long.
 - The  is **15** cm long.
- Children should draw the end of the pencil at the 8 cm mark on the ruler.
 - Children should draw the end of the pencil at the 14 cm mark on the ruler.

3.



Children might recognise that they can match the animals with their heights without using a ruler by ordering them from shortest to tallest.

- The pencil is 6 cm tall.
The rubber is 4 cm tall.
- Children should draw a house that is exactly 8 cm wide and 4 cm tall.

Reflect

Children’s answers will depend on the length of their piece of paper and where they cut the paper. Children should explain lining up the edge of the paper with the zero on the ruler, not the end of the ruler.



4 Solve word problems – length

→ pages 111–113

1. a) The lolly is **5** cm long.
b) The leaf is **11** cm long.
2. Two bricks are **12** cm long.
3. The string has not been laid out straight. When it is straightened it will be longer than 7 cm.
4. Answers will vary but should be number bonds to 10.
In either order:
 - 1 cm and 9 cm
 - 2 cm and 8 cm
 - 3 cm and 7 cm
 - 4 cm and 6 cm
 - 5 cm and 5 cm.
5. The difference is **0** cm.

Reflect

The first pencil is 5 cm.

The second pencil is 6 cm.

The first pencil is 1 cm shorter than the other pencil.

The second pencil is 1 cm longer than the other pencil.

The difference in their lengths is 1 cm.

Children should explain measuring the first pencil from 0 to 5 cm and the second pencil from 3 to 9 cm.

My journal

→ page 114

I think the **plain** string is longer because **it is curved, so when it is straight, it will be longer than the spotted string.**

Power play





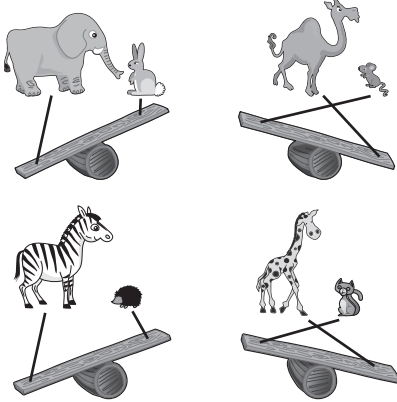
→ page 115

Children should play the game until one of them has run out of paper.

Unit 10 – Introducing mass and capacity

I Heavier and lighter

→ pages 116–118

- Children should circle the shoe.
 - Children should circle the middle scale.
 - Children should circle the bag.
- Children should circle the balloon and the leaf. Children may also circle the toy car and the trainer.
-  is lighter than .
 -  is heavier than .
- 
- Lightest to heaviest: diamond, star, triangle.

Reflect

The **book** is heavier than the **pen**.

The **pen** is lighter than the **book**.

Children should explain that on a balance scale the heavier item is lower.

2 Measure mass

→ pages 119–121

- The mass of the present is **8** cubes.
The mass of the present is **20** marbles.
- | | |
|----------|-----------------|
| Teddy | 6 cubes |
| Boot | 20 cubes |
| Book | 15 cubes |
| Football | 10 cubes |
- Children should draw:
 - 3 cubes on the right
 - 3 cubes on the right
 - 5 cubes on the right
 - 3 cubes on the left
- 5 + 8 = 13**
13 balls are needed to balance the scales.
- Children should tick the third set of scales.

Reflect










The mass of the loaf equals 12 cubes of the same size.

The mass of the loaf equals 4 large blocks and 3 smaller blocks.

12 cubes = 4 large blocks + 3 small blocks

3 Compare mass

→ pages 122–124

-  is heavier than .
 -  is heavier than .
 -  is lighter than .
-   
- The horse is **heavier** than the teddy bear.
 - The football is **lighter** than the car.
 - The teddy bear is **heavier** than the football.
 - The horse is **heavier** than the teddy bear and heavier than the car.
- Children should draw from left to right: pineapple, apple, banana.
- | | |
|--------|------------|
| C = 7 | (cylinder) |
| B = 10 | (pyramid) |
| A = 15 | (cone) |
| D = 19 | (cuboid) |

Reflect

The cupcake is heavier than the doughnut and the iced bun.

The doughnut is lighter than the cupcake and heavier than the iced bun.

The iced bun is lighter than the doughnut and the cupcake.

The cupcake is the heaviest.

The iced bun is the lightest.

4 Full and empty

→ pages 125–127

- full
 - empty
 - empty
 - empty

2. Full E A C D Empty B



4. Children shade the glasses so that the first glass is full and the second glass is approximately half full.
 5. Children should tick statement A.

Reflect

has more than .
 is full .
 is empty .

5 Measure capacity

→ pages 128–130

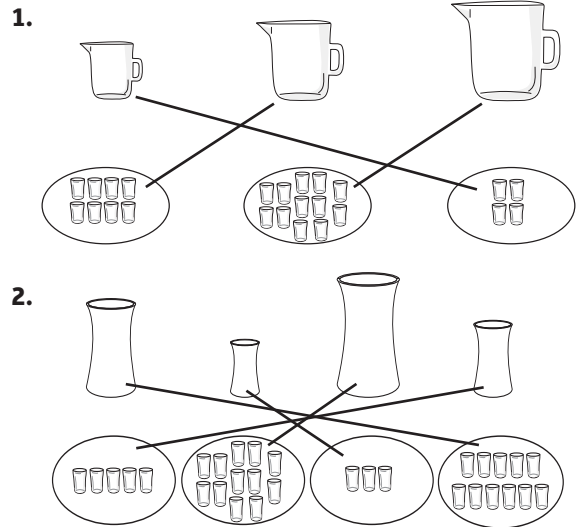
1. a) The jug holds **8** glasses.
 b) **11** spades fill the wheelbarrow.
 2. Jug 4 glasses
 Pot 2 glasses
 Vase 5 glasses
 3. a) $4 + 6 = 10$ glasses
 b) $6 + 1 = 7$ glasses
 4. a) **15** spades fill 3 buckets.
 b) **25** spades fill 5 buckets.

Reflect

The pan holds **3** jugs.
15 glasses fill one pan.
 $3 \text{ jugs} = 5 + 5 + 5 = 15 \text{ glasses}$

6 Compare capacity

→ pages 131–133



3. a) 1 jug holds **more** than 4 glasses.
 b) 5 glasses hold **less** than 1 vase.
 c) 5 glasses hold **more** than one teapot.
 4. **C, A, B**
 5. a) 2 grey containers hold **more** than 1 striped container.
 b) 1 white container and 1 grey container hold **more** than 1 striped container and 1 white container.
 c) 1 white container and 5 spoons hold **more** than 1 grey container and 1 spoon.

Reflect

Answers will vary, but children could suggest counting how many glasses of water each container holds or seeing if all of the liquid from one container will fit in another.

7 Solve word problems – mass and capacity

→ pages 134–136

1. a) The striped jug holds **4** more glasses than the plain jug.
 b) The two jugs hold **20** glasses in total.



2. a) $6 + 4 = 10$
It weighs 10 cubes.
b) $18 - 4 = 14$
It weighs 14 cubes.
c) $10 - 5 = 5$
It weighs 5 cubes.
3. a) 4 round weights balance 1 square weight.
b) 2 spherical weights balance the cylindrical weight.

Reflect

Children's responses will vary.

My journal

→ page 137

10 glasses is double 5 glasses, so will weigh double the number of blocks.

5 glasses weigh 8 blocks, so 10 glasses weigh
 $8 + 8 = 16$ blocks.

Power play

→ page 138

Lightest to heaviest: J, A, N.

Children's answers will depend on the letters in their name.