



# Unit 5 – Money

## I Count money – pence

→ pages 6–8

- 6p
  - 25p
  - 60p
  - 55p
- 10p, 20p, 25p, 30p, 32p, 34p, 36p  
**36p**
- 50p, 55p, 60p, 61p, 62p, 63p, 64p, 65p  
**65p**
  - 20p, 30p, 40p, 50p, 52p, 54p  
**54p**
- 40p
  - 82p
- No**, 19p is an odd number of pence. If Alice is counting in 2p coins she will only say multiples of 2 which are all even numbers.
- The possible combinations are:  
 $20p + 10p + 5p + 2p = 37p$   
 $20p + 10p + 5p + 1p = 36p$   
 $20p + 10p + 2p + 1p = 33p$   
 $20p + 5p + 2p + 1p = 28p$   
 $10p + 5p + 2p + 1p = 18p$

### Reflect

There is 90p altogether.

Children should explain the order in which they added the coins and might explain counting coins of the same value first or coins with the largest value first.

## 2 Count money – pounds (notes and coins)

→ pages 9–11

- £30
  - £50
  - £15
  - £35
- £10, £20, £30, £31, £32  
**£32**
  - £10, £20, £30, £40, £50  
**£50**
  - £20, £40, £46  
**£46**
- £35
  - £38
  - £29
- The missing part is **£10**.  
The missing whole is **£5**.

- Jenny's note cannot be £5 because £5 is not in the 2 or 10 times-table.

### Reflect

Children should explain the order in which they added the money to make a total of £13. They might explain starting with the notes first, or counting money with the same value first.

## 3 Count money – pounds and pence

→ pages 12–14

- £25**  
**58p**  
The total is **£25** and **58p**.
  - £11  
32p  
The total is **£11** and **32p**.
- Together there is **£27** and **34p**.

3.

A	B	C
£5, 10p, 5p	£10, £5, 5p	£5, £1, 50p, 1p

The total is £15 and 5p	The total is £6 and 5p	The total is £5 and 15p
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- £30** and **10p**
  - £32** and **21p**
- £25 and 30p = £10 + £5 + £5 + **£5** + 20p + 5p + **5p**
  - £52 and 15p = **£50** + £1 + £1 + **10p** + 5p
- There are several possible answers. Children could draw:  
 £2, £2, £1, £1, 10p, 2p  
 £2, £2, £2, 10p, 1p, 1p  
 £2, £2, £2, 5p, 5p, 2p

### Reflect

Children should suggest counting the notes and coins separately then adding them together.

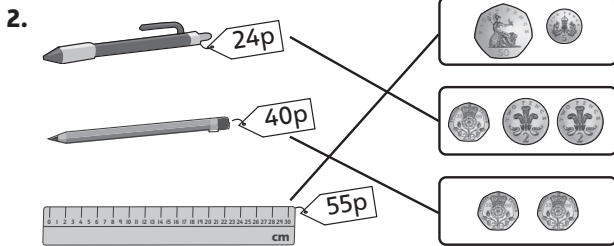
Examples will vary.



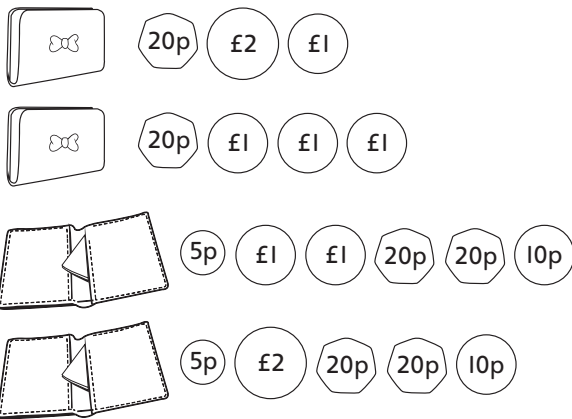
## 4 Choose notes and coins

→ pages 15–17

- Children should circle: 10p, 10p, 5p, 5p or 10p, 10p, 5p, 2p, 2p, 1p.
  - Children should circle: £10, £10, £5 or £10, £5, £5, £5.
  - Children should circle: 50p, 20p, 5p or 50p, 20p, 2p, 2p, 1p.
  - Children should circle: £10, £5 or £10, £2, £2, £1 or £5, £5, £2, £2, £1.



- Claire uses 20p and 5p.
  - Max uses 20p, 5p and 2p.
- There are several possibilities. For example:

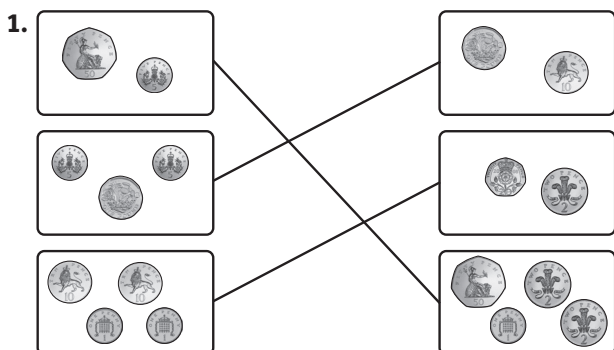


### Reflect

The smallest number of coins you need to make 58 pence is  $50p + 5p + 2p + 1p$ .

## 5 Make the same amount

→ pages 18–20



- There are several possible answers. For example,  $20p + 5p$ ;  $10p + 10p + 5p$ ;  $20p + 2p + 1p + 1p + 1p$ .
- Children should circle coins which total £15. For example,  $5 \times £2$ ,  $5 \times £1$  or  $5 \times £2$ ,  $4 \times £1$ ,  $2 \times 50p$ .
- $40p = 20p + 20p$   
 $40p = 20p + 10p + 10p$   
 $40p = 10p + 10p + 10p + 10p$  or  $20p + 10p + 5p + 5p$
- $20p = 10p + 10p$   
 $20p = 10p + 5p + 5p$   
 $20p = 5p + 5p + 5p + 5p$   
 $20p = 10p + 5p + 2p + 2p + 1p$   
 $20p = 10p + 5p + 2p + 1p + 1p + 1p + 1p$  or  $5p + 5p + 5p + 2p + 2p + 1p$   
 $20p = 10p + 5p + 1p + 1p + 1p + 1p + 1p + 1p$  or  $5p + 5p + 5p + 2p + 1p + 1p + 1p$

### Reflect

Danny has 66p.

Emily must have 5 or more coins.

There are several combinations of coins, for example, 50p, 10p,  $3 \times 2p$  or  $3 \times 20p$  and  $3 \times 2p$ .

## 6 Compare amounts of money

→ pages 21–23

- Filip has more money.
  - Jack has less money.
  - less more
- $£8 = £8$
  - $£14.30 > £12.15$
  - $20p < £1$
- Children should circle notes and coins that total an amount between £27 and £49.
- False  
False  
False
- Children's answers will depend on the notes they draw.

### Reflect

Bag 1 has more money in it because although both bags have the same coins, Bag 1 has a £10 note which is greater than the £5 note in Bag 2.

## 7 Calculate with money

→ pages 24–26

- $£7 + £3 = £10$
  - $£12 + £5 = £17$
  - $£15 + £14 = £29$
  - $£26 + £40 = £66$
- $£8 + £8 = £16$
  - $£8 + £8 + £8 = £24$



3. Milo needs  $£45 - £15 = £30$  more.
4. The difference in price is  $£22 - £19 = £3$ .
5. Children should choose items with a total of  $£12.35$ .  
For example:  
book, notepad, rubber, pencil and a big sticker book,  
2 pens, 2 pencils, 2 big stickers and 5 small stickers  
2 pencil cases, 2 pens, 3 pencils and 1 big sticker.

### Reflect

Children should write a word problem involving the addition  $27p + 14p = 41p$ .

## 8 Make £1

→ pages 27–29

1. a) Children should tick the hand on the right with two 50p coins.  
b) Children should tick the purse on the right with 50p,  $2 \times 20p$  and 10p.
2. Children circle coins that total  $£1$ . The fewest number of coins is  $20p \times 3$ ,  $10p \times 3$  and  $2 \times 5p$ .
3. Answers will vary, for example:
  - a) 40p:  $2 \times 20p$  or  $4 \times 10p$
  - b) 70p:  $1 \times 50p$  and  $1 \times 20p$
  - c) 22p:  $1 \times 20p$  and  $1 \times 2p$
4. a)  $95p + 5p = £1$                       d)  $99p + 1p = £1$   
b)  $80p + 20p = £1$                     e)  $89p + 11p = £1$   
c)  $75p + 25p = £1$                     f)  $25p + 75p = £1$
5. a) Children should circle the lolly, ice cream and crisps.  
b) Children should circle everything except the banana.

### Reflect

There are many different combinations of coins which make  $£1$ . Children should discuss using coins of the same value, the fewest number of coins and the largest number of coins.

## 9 Find change

→ pages 30–32

1. a) **30p** change  
b) **10p** change
2. a) **85p** change  
b) **65p** change
3. **25p** change
4. a) **£1** change  
b) **£3** change
5. a) **£5** change  
b) **£2** change
6. **£8** change

7. Reena's coins were **10p, 2p, 1p** and **1p** or **5p, 5p, 2p** and **2p**.

### Reflect

Children should practise counting out the correct amount of money to pay with and to give as change.

## 10 Two-step problems

→ pages 33–35

1. a)  $£6 + £5 = £11$   
The total cost is **£11**.  
b)  $£20 - £11 = £9$   
Will get **£9** change.
2. a)  $£14 + £30 = £44$   
The trainers cost **£44**.  
b) The items cost **£58** in total.
3.  $65p - 40p = 25p$   
 $65p + 25p = 90p$
4. Izzy and Jack have  $£12 + £30 = £42$  in total.

### Reflect

Children's answers will vary. Expect children to mention change from a sensible amount such as 50p or  $£1$ . They could also ask for the total cost or the coins Katie could use to pay.

## My journal

→ page 36

It is **false** because **five 2p coins are equal to one 10p coin**.

## Power play

→ page 37

Children's answers will depend on the coins they chose.



# Unit 6 – Multiplication and division (I)

## I Recognise equal groups

→ pages 38–40

- There are **4** equal groups of **3** bananas.
  - There are **5** equal groups of **3** boxes.
  - There are **2** equal groups of **5** blocks.

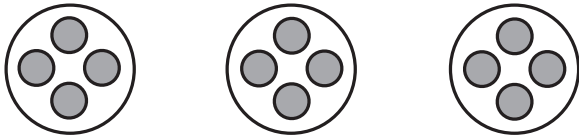
2.

3 groups of 2

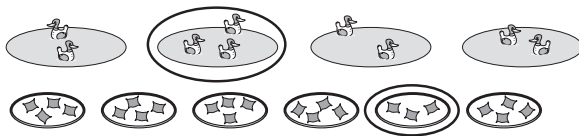
5 groups of 5

5 groups of 4

- Children should draw:



- Children should circle:



- There are **3** groups of **2** children.  
There are **2** groups of **3** birds.  
There are **3** groups of **4** clouds.

### Reflect

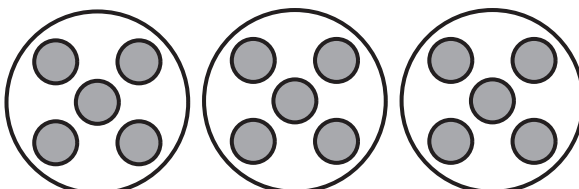
Children should recognise that there are the same number of counters in the groups in each set – each group has 4 counters.

However, there are a different number of groups in each set. The first set has 5 groups of 4. The second set has 3 groups of 4.

## 2 Make equal groups

→ pages 41–43

- Children should tick answers a) and b).
- The counters can be arranged in any pattern but children should draw 5 counters in each group:



- Children should circle No. Group A has 2 children and group B has 4 children.
- Children should circle the apples in 2 groups of 4.
  - Children should circle the ladybirds in 2 groups of 5.
- Children should circle the cars in 3 groups of 2.
  - Children should circle the counters in 5 groups of 2.
- With 20 cubes children should be able to make:
  - 2 equal towers of 10 cubes.
  - Children cannot make 3 equal towers.
  - 4 equal towers of 5 cubes.
  - 5 equal towers of 4 cubes.

### Reflect

With 8 counters children can make: 2 equal groups of 4 or 4 equal groups of 2.

## 3 Add equal groups

→ pages 44–46

- There are **3** groups of **2** cats.
  - $2 + 2 + 2 = 6$  cats
- There are **4** groups of **5** balloons.
  - $5 + 5 + 5 + 5 = 20$  balloons
- $2 + 2 + 2 + 2 + 2 = 10$
  - $3 + 3 + 3 + 3 = 12$
  - $4 + 4 = 8$
- $4 + 4 + 4 = 12$  counters
- $10 + 10 + 10 + 10 + 10 = 50$  eggs
- Children should circle:



### Reflect

Children should draw some groups with equal numbers of items.

For example, they could draw 4 groups with 3 stars in each group.

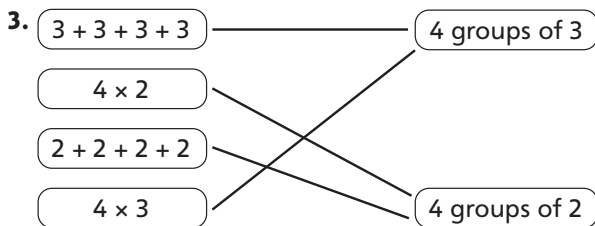
Their partner would then write  $3 + 3 + 3 + 3 = 12$ .



## 4 The × sign

→ pages 47–49

- $2 + 2 + 2 + 2$   
 $4 \times 2$
  - $3 + 3$   
 $2 \times 3$
  - $1 + 1 + 1 + 1 + 1$   
 $5 \times 1$
- $5 \times 2$
  - $4 \times 3$
  - $2 \times 4$



- $3 + 3 + 3 + 3 = 4 \times 3$
  - $7 + 7 + 7 = 3 \times 7$
  - $5 + 5 + 5 + 5 + 5 = 5 \times 5$
- $3 + 3 = 2 \times 3$
  - $2 + 2 = 2 \times 2$

### Reflect

$3 + 3 + 3 = 3 \times 3$  is the correct matching multiplication and addition because 3 groups of 3 is the same as 3 multiplied by 3.

The second group only has 5 groups of 3 in the addition, which is not the same as 6 multiplied by 3.

## 5 Multiplication sentences

→ pages 50–52

- $4 \times 2 = 8$
  - $3 \times 5 = 15$
  - $6 \times 10 = 60$
- $4 \times 5 = 20$
  - $6 \times 2 = 12$
- Children should draw 2 groups with 4 items in each group, giving 8 items in total.
- $4 \times 10 = 40$
- $7 \times 2p = 14p$
  - $3 \times 10p = 30p$

### Reflect

Children should write their own multiplication. Their partner should then draw the multiplication as the correct number of groups and items in each group.

## 6 Use arrays

→ pages 53–55

- $4 \times 3 = 12$   
 $3 \times 4 = 12$
  - $7 \times 2 = 14$   
 $2 \times 7 = 14$
  - $3 \times 5 = 15$   
 $5 \times 3 = 15$
  - $2 \times 10 = 20$   
 $10 \times 2 = 20$

2. a) Children should circle:



- b) Children should circle:



- c) Children should recognise that there are the same number of stars (10) regardless of how they are grouped, 2 groups of 5 and 5 groups of 2 both equal 10 stars.

3. Children should draw an array with either 5 groups of 4 or 4 groups of 5 to show  $5 \times 4 = 20$ .

4. True

5. Children should draw 3 rows of 3 dots to show  $3 \times 3$ , 4 rows of 4 dots to show  $4 \times 4$  and 5 rows of 5 dots to show  $5 \times 5$ . Children should notice that they are making a square array each time.

### Reflect

Children should recognise that everyone's array for  $2 \times 7$  will not look the same. They could show 2 rows of 7 stars or 7 rows of 2 stars.





## 7 Make equal groups – grouping

→ pages 56–58

- Children should circle groups of 2 apples.
  - They should make **5** groups of 2 apples.
  - $10 \div 2 = 5$
- Children should circle each row of 5 cubes.
  - $20 \div 5 = 4$
  - Jo can make **4** towers of 5 cubes.
- $12 \div 2 = 6$
  - $16 \div 2 = 8$
  - $14 \div 2 = 7$
- $15 \div 3 = 5$
- $20 \div 5$  makes 4 groups;  $20 \div 10$  makes 2 groups;  $20 \div 2$  makes 10 groups.  
**20  $\div$  2** makes the most groups.

### Reflect

Children's answers will vary. For example,  $15 \div 3$  could represent 15 apples, arranged into groups of 3 apples, giving 5 groups.

It could also represent 15 apples, shared equally between 3 groups, giving 5 apples each.

## 8 Make equal groups – sharing

→ pages 59–61

- Children should draw 2 flowers in each of the 5 vases.
  - There are **2** flowers in each vase.
  - $10 \div 5 = 2$
- Children should draw 5 counters in each circle.  
 $15 \div 3 = 5$
- $12 \div 6 = 2$
  - $10 \div 2 = 5$
- $8 \div 4 = 2$   
Each class gets **2** hockey sticks.
  - $12 \div 4 = 3$   
Each class gets **3** balls.
- The 10 represents **the total number of carrots**.  
The 2 represents **the number of rabbits the carrots are shared between**.  
The 5 represents **the number of carrots each rabbit gets**.

### Reflect

Children's answers will vary.

Sharing is when a number of items are shared equally between a known number of groups and you want to find how many each group gets.

Grouping is when you know the number of items, and how many of those items you want each group to have, but you need to find out how many groups can be made.

## My journal

→ page 62

It is **true** because **5 cannot be equally divided between 2. There would be 1 left over.**

## Power play

→ page 63

Observe as children play the game, ensuring they finish when there is 1 counter left. It is better to be Player B because Player A doesn't have the correct groups (3 counters or 6 counters) to make 20.



# Unit 7 – Multiplication and division (2)

## 1 2 times-table

→ pages 64–66

- $5 \times 2 = 10$
  - $4 \times 2 = 8$
  - $4 \times 2 = 4$  or  $2 \times 4 = 8$
- $2 \times 8 = 16$  or  $8 \times 2 = 16$
  - $3 \times 2 = 6$
  - $12 \times 2 = 24$  or  $2 \times 12 = 24$
- Children should draw a diagram to show 6 groups of 2 or 2 groups of 6 to represent a total of 12.
- |                       |                       |
|-----------------------|-----------------------|
| a) $1 \times 2 = 2$   | e) $2 \times 7 = 14$  |
| b) $4 \times 2 = 8$   | f) $2 \times 11 = 22$ |
| c) $8 \times 2 = 16$  | g) $5 \times 2 = 10$  |
| d) $10 \times 2 = 20$ | h) $12 \times 2 = 24$ |
- $3 \times 2 = 6$ , then  $6 \times 2 = 12$ , so **12** comes out at the end.

### Reflect

Answers will vary, but children should find more than two ways to show that 6 groups of 2 or 2 groups of 6 makes a total of 12. For example, a drawing, counters and arrays.

## 2 Divide by 2

→ pages 67–69

- $8 \div 2 = 4$
  - $14 \div 2 = 7$
  - $12 \div 2 = 6$
- $6 \div 2 = 3$
  - $10 \div 2 = 5$
- $20 \div 2 = 10$  pictures  
They can hang 10 pictures.
- |                      |                      |
|----------------------|----------------------|
| a) $4 \times 2 = 8$  | c) $6 \times 2 = 12$ |
| $8 \div 2 = 4$       | $12 \div 2 = 6$      |
| b) $5 \times 2 = 10$ | d) $7 \times 2 = 14$ |
| $10 \div 2 = 5$      | $14 \div 2 = 7$      |
- |                 |                   |
|-----------------|-------------------|
| $8 \div 2 = 4$  | $1 \times 2 = 2$  |
| $12 \div 2 = 6$ | $2 \times 2 = 4$  |
| $2 \div 2 = 1$  | $3 \times 2 = 6$  |
| $4 \div 2 = 2$  | $4 \times 2 = 8$  |
| $10 \div 2 = 5$ | $5 \times 2 = 10$ |
| $14 \div 2 = 7$ | $6 \times 2 = 12$ |
|                 | $7 \times 2 = 14$ |
|                 | $8 \times 2 = 16$ |

### Reflect

So I know that  $10 \div 2 = 5$  because **if 5 groups of 2 equal 10, then 10 divided into 2 groups equals 5.**

## 3 Double and halve

→ pages 70–72

- Double 2 = **4**
  - Double 4 = **8**
  - Double 5 = **10**
- There are **12** eggs.
- Double 7 = **14**
  - Double 10 = **20**
- |                               |                                |
|-------------------------------|--------------------------------|
| a) A half of 4 is <b>2</b> .  | d) A half of 16 is <b>8</b> .  |
| b) A half of 8 is <b>4</b> .  | e) A half of 18 is <b>9</b> .  |
| c) A half of 10 is <b>5</b> . | f) A half of 20 is <b>10</b> . |
- Answers will vary, but children should show that they understand that 12 is shown as  $10 + 2$ , so doubling 12 is the same as doubling 10 (to get 20) and then doubling 2 (to get 4). The total is  $20 + 4 = 24$ .
- Double 11 = **22**, double 12 = **24**, double 13 = **26**, double 14 = **28**, double 15 = **30**
  - Half of 20 = **10**, half of 40 = **20**, half of 60 = **30**, half of 80 = **40**, half of 100 = **50**

### Reflect

Children's answers will vary depending on the doubles they know.

## 4 Odd and even numbers

→ pages 73–75

- - 
  - One child is left over
  -

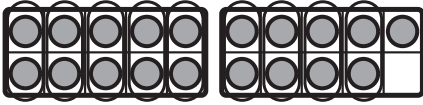
When the children in part **c**) are put into pairs, there is 1 child left over. This line must have an odd number of children because an even number of children will always be a multiple of 2 and there will never be 1 child left over.



2. 11 is an **odd** number.



19 is an **odd** number.



14 is an **even** number.



3. a) Even numbers: 12, 14, 26  
b) Odd numbers: 3, 23

4.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Children should shade all of the even numbers. Children should notice that the shaded numbers are in columns. Children may also notice that the final digit of each even number is an even number.

### Reflect

Jamal is correct. All odd numbers end in 1, 3, 5, 7 or 9.

## 5 10 times-table

→ pages 76–78

- a)  $3 \times 10 = 30$   
b)  $6 \times 10 = 60$   
c)  $2 \times 10 = 20$   
d)  $4 \times 10 = 40$
- $5 \times 10 = 50$
- $4 \times 10 = 40$  or  $10 \times 4 = 40$
- $6 \times 10 = 60$   
There are **60** pencils in 6 boxes.
- a)  $10 \times 10 = 100$   
b)  $8 \times 10 = 80$   
c)  $1 \times 10 = 10$

d)  $10 \times 4 = 40$   
e)  $9 \times 10 = 90$   
f)  $10 \times 2 = 20$

6.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Children should notice that the multiples of 10 are all in one column.

### Reflect

15, 75 and 99 are not in the 10 times-table. Children should explain that the numbers in the 10 times-table have a final digit of 0.

## 6 Divide by 10

→ pages 79–81

- $40 \div 10 = 4$
- a)  $60 \div 10 = 6$   
b)  $30 \div 10 = 3$   
c)  $50 \div 10 = 5$
- I know  $3 \times 10 = 30$ , so  $30 \div 10 = 3$ .  
I know  $7 \times 10 = 70$ , so  $70 \div 10 = 7$ .  
I know  $9 \times 10 = 90$ , so  $90 \div 10 = 9$ .  
I know  $4 \times 10 = 40$ , so  $40 \div 10 = 4$ .
- a)  $40 \div 10 = 4$   
b)  $8 = 80 \div 10$   
c)  $90 \div 10 = 90$   
d)  $20 \div 10 = 2$   
e)  $10 \div 10 = 1$   
f)  $3 = 30 \div 10$

g)  $1 \times 10 = 10$   
h)  $2 \times 10 = 20$   
i)  $3 \times 10 = 30$   
j)  $5 \times 10 = 50$   
k)  $6 \times 10 = 60$   
l)  $7 \times 10 = 70$
- a) Star = **3**, Triangle = **7**  
b) Star = **7**, Triangle = **3**  
Answers may vary, but may include the fact that the value of a star and a triangle swap in part b).

### Reflect

Children's answers will vary. For example, using  $9 \times 10 = 90$ , they could write  $90 \div 10 = 9$  or  $90 \div 9 = 10$ .





## 7 5 times-table

→ pages 82–84

- $4 \times 5 = 20$
  - $6 \times 5 = 30$
  - $2 \times 5 = 10$
- $7 \times 6 = 35$
  - $10 \times 5 = 50$
- $9 \times 5 = 45$  or  $5 \times 9 = 45$
- $2 \times 5 = 10$
  - $5 \times 5 = 25$
  - $6 \times 5 = 30$
  - $5 \times 7 = 35$
  - $45 = 9 \times 5$
  - $5 \times 11 = 55$
- $20 \times 5$  is one more lot of 5 than  $19 \times 5$ . So, if  $19 \times 5 = 95$ , then  $20 \times 5 = 95 + 5 = 100$ .
- There are nine possible answers:  $8 \times 5p = 40p$ ;  $7 \times 5p$  and  $1 \times 10p = 45p$ ;  $6 \times 5p$  and  $2 \times 10p = 50p$ ;  $5 \times 5p$  and  $3 \times 10p = 55p$ ;  $4 \times 5p$  and  $4 \times 10p = 60p$ ;  $3 \times 5p$  and  $5 \times 10p = 65p$ ;  $2 \times 5p$  and  $6 \times 10p = 70p$ ;  $1 \times 5p$  and  $7 \times 10p = 75p$ ; and  $8 \times 10p = 80p$ .

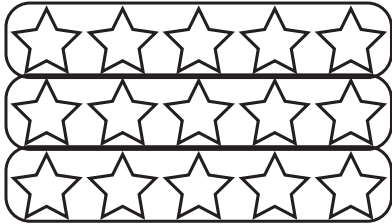
### Reflect

Children's answers will vary, but they should use the multiplication fact  $6 \times 5 = 30$  to write another multiplication fact or division fact including 5, for example,  $12 \times 5 = 60$ ,  $30 \div 5 = 6$  or  $30 \div 6 = 5$ .

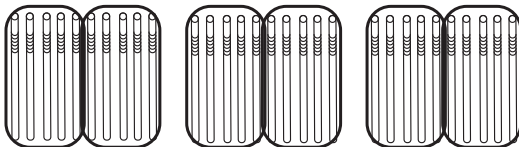
## 8 Divide by 5

→ pages 85–87

- $15 \div 5 = 3$



- $30 \div 5 = 6$



- $2 \times 5 = 10$
  - $5 \times 5 = 25$
  - $4 \times 5 = 20$
  - $7 \times 5 = 35$
- $10 \div 5 = 2$
  - $25 \div 5 = 5$
  - $20 \div 5 = 4$
  - $35 \div 5 = 7$
- $15 \div 5 = 3$
  - $20 \div 5 = 4$
  - $25 \div 5 = 5$
  - $45 \div 5 = 9$
  - $40 \div 5 = 8$
  - $35 \div 5 = 7$

- Ben could have chosen 10, 20, 30 or 40.  
Anya could have chosen 5, 15, 25, 35 or 45.

Children should notice that dividing a number ending in 0 by 5 gives an even number, and that dividing a number ending in 5 by 5 gives an odd number.

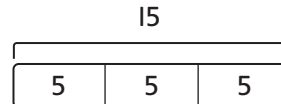
### Reflect

Children should explain the method they used to work out  $35 \div 5 = 7$  grapes. Each friend gets 7 grapes.

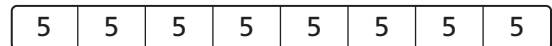
## 9 Bar modelling – grouping

→ pages 88–90

- $14 \div 2 = 7$
- $40 \div 5 = 8$   
Charlie can make 8 copies of the pattern.
- $40 \div 4 = 10$   
**40 is 4 groups of 10.**
  - $10 \div 5 = 2$   
**10 is 5 groups of 2.**
- There are **3** groups of 5.



- $40 \div 5 = 8$



- $55 \div 5 = 11$

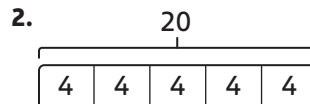
### Reflect

Children should make up a division problem to show  $20 \div 4 = 5$  or  $20 \div 5 = 4$ .

## 10 Bar modelling – sharing

→ pages 91–93

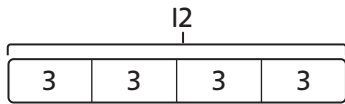
- $15 \div 3 = 5$   
Each child carries **5** books.



$20 \div 5 = 4$   
Each table gets **4** crayons.

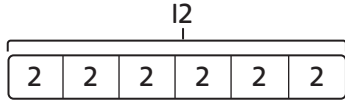


3. a)



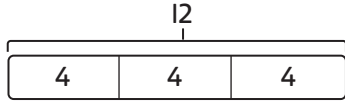
$$12 \div 4 = 3$$

b)



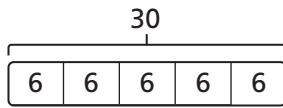
$$12 \div 6 = 2$$

c)



$$12 \div 3 = 4$$

4. Half an hour equals **30** minutes.



$$30 \div 5 = 6 \text{ minutes each.}$$

### Reflect

A bar model for sharing 30 between 5 would show 5 boxes, each containing the number 6.

A bar model for making groups of 5 from 30 would show 6 boxes, each containing the number 5.

## My journal

→ page 94

Numbers that give an odd answer when you divide by 5: 5, 15, 25, 35, 45, 55, 65, 75, 85, 95.

The pattern for dividing by 5 to get an odd number is a column starting with 5 at the top. This is because the ones digit must be a 5.

Numbers that give an even answer when you divide by 10: 10, 30, 50, 70, 90.

The pattern for dividing by 10 to get an even number is alternate numbers in a column starting with 10 at the top. This is because the tens digit must be odd and the ones digit must be 0.

## Power play

→ page 95

The number of cubes must be odd, because when James makes towers of 2, there is 1 cube left over.

The number of cubes must be one greater than a number in the 3 times-table and the 4 times-table, because there is 1 cube left over when James makes towers of 3 or 4.

James could have 13 cubes, 25 cubes, 37 cubes or 49 cubes.



# Unit 8 – Length and height

## I Measure in cm

→ pages 96–98

- 4 cm
  - 8 cm
  - 10 cm
- 1 cm
  - 12 cm
  - 7 cm
- Using a ruler, children should draw:
  - a straight 2 cm line
  - a straight 11 cm line
  - a straight 12 cm line.
- Children's answers will vary depending on the objects they have used.
- False.** Children should explain that the stick starts at 1 cm and ends at 10 cm so it is only 9 cm long.
  - True.** Children should explain that the stick starts at 0 cm and ends at 9 cm.

### Reflect

Children should draw a straight line using a ruler and a partner should measure its length accurately.

## 2 Measure in m

→ pages 99–101

- Children's answers will vary depending on the items they measured.
- Children should find, in metres:
  - the length of the school hall
  - the length of a school bench
  - the height of a table.
- Pencil case = 30 cm, table = 2 m, pencil = 12 cm.
- My classroom is about **6** m long.
  - My chair is about **90** cm tall.
  - My pencil is about **20** cm long.
  - My desk is about **1 m** wide.
- Children's answers will vary but should be sensible guesses. For example, a bed or a door might be 2 m long.

### Reflect

Children's answers will vary but should be sensible suggestions, for example:

- You would use a metre stick to measure the width of the playground.
- You would use a 30 cm ruler to measure the length of your hand.

## 3 Compare lengths and heights

→ pages 102–104

- The line on the right is longer.
- The **bin** is taller than the **stool**.
- 37 cm < 73 cm
  - 90 m > 30 m
  - 15 cm < 15 m
  - 65 m < 75 m
  - 65 m < 85 m
  - 65 m < 95 m
- Any digit from 5 to 9.
  - Any digit from 5 to 9.
  - Any digit from 0 to 9.
  - 36 cm = 36 cm**
  - There are many possible answers. The digit in the first answer box must be greater than the digit in the second answer box.  
For example, 58 cm > 49 cm.
- The **carrot** is longer.
- Zac is correct. 1 m is the same as 100 cm, so 20 cm is less than 1 m.

### Reflect

Answers will depend on the lengths of children's books and pencils, but books will usually be longer.

## 4 Order lengths and heights

→ pages 103–107

- Shortest to longest: C, A, B.
- Shortest to longest: c, a, b, d.
- D
  - C
  - Tallest to shortest: D, B, A, C.
- Shortest to longest: 40 cm, 44 cm, 53 cm.
  - Shortest to longest: 27 m, 31 m, 55 m.
- Any length in m less than 12 m.
  - Any length in cm greater than 49 cm.
  - Any length in m less than 18 m.

**Reflect**

Children's answers will vary depending on the objects they measure, but children should write their lengths in order from shortest to longest or longest to shortest.

## 5 Four operations with lengths and heights

**→ pages 108–110**

1. a) The athlete jumps **9 m** in total.  
b) Sam runs **45 m** in total.  
c) Maya's sunflower is **90 cm** tall.
3. Rani's leg is **14 cm** shorter than Maya's leg.
4. a) Each piece of paper is **10 cm** long.  
b) The whole strip of paper was **20 cm** long.
5. Joe has **24** metres left to run.

**Reflect**

Children should explain  $30\text{ cm} + 58\text{ cm} = 88\text{ cm}$ .

The total length of the two snakes is **88 cm**.

## My journal

**→ page 111**

Hassan is not correct because the pencil does not start at 0 cm on the ruler. Children should explain that the pencil starts at 2 cm and ends at 8 cm, so it is 6 cm long.

## Power play

**→ page 112**

Children should line up different objects to reach a total length of 1 m.

# Unit 9 – Mass, capacity and temperature





## I Compare mass

→ pages 113–115

- The zebra is **lighter** than the camel.  
The tiger is **heavier** than the lion.  
The lion is **heavier** than the camel.

- B** is heavier than **A**.  
**A** is heavier than **C**.  
**B** is the heaviest.  
**C** is the lightest.

3. a)

Shape				
Mass in cubes	1	2	0.5	5

- The cylinder is the heaviest.  
The ball is the lightest.

- Pencil case: **2**  
Book: **1**  
Shoe: **3**

### Reflect

Children should explain that the heavier item makes the balance pan go down.

The marble is heavier than the balloon.

## 2 Measure in grams

→ pages 116–118

- The mass of the ruler is **15 g**.  
The pencil case weighs **40 g**.
- 50 g**
  - 75 g**
  - 100 g**
- The apple has a mass of **40 g**.  
The orange has a mass of **55 g**.  
The pear has a mass of **28 g**.
  - Children should draw an arrow to **95 g**.
- Children's answers will depend on the cubes they weigh.
  - Children's predictions should be the total when they add the mass of 5 cubes and 10 cubes from part a) together.

### Reflect

Rav needs to weigh the cheese to find its mass.

Alia needs to find a specific amount of cheese by placing cheese onto the scale until it reaches 30 g.

## 3 Measure in kilograms

→ pages 119–121

- 1 kg**
  - 6 kg**
  - 15 kg**
- Children should circle:  
Chair: **2 kg**  
Brush: **20 g**  
Book: **100 g**
- 10 kg**
  - 90 kg**
  - 20 kg**
  - 25 kg**
  - 50 kg**
  - 5 kg**

4.



- 65 kg**
  - 1 kg**
  - 5 kg**
  - 17 kg**

### Reflect

Children's responses will vary. For example:

- All fruit except large fruit and stationery items such as pencils and rulers will have a mass less than 1 kg.
- A pineapple or melon will have a mass of about 1 kg.
- Items of furniture could have a mass of 10 kg.

## 4 Compare volume and capacity




→ pages 122–124

- Children should tick:
  - Children should tick:



- B holds **less** than A.  
A holds **more** than C.  
C holds **less** than B.
- Least to most: B, A, C.

4.

Container	Capacity
	2 glasses
	10 glasses
	5 glasses

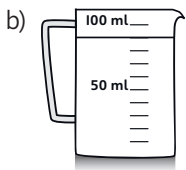
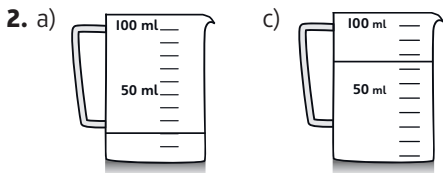
### Reflect

Children should explain weighing on scales or pouring one container into another to compare.

## 5 Measure in millilitres

→ pages 125–127

- 50 ml
  - 70 ml
  - 10 ml
  - 5 ml



- 4 teaspoons
  - 8 teaspoons
  - 9 teaspoons
  - 10 teaspoons
- 30 ml    60 ml    10 ml
  - Yes, altogether there is 100 ml of water in the first 3 jugs and the capacity of the new jug is 100 ml, so the water can all be poured into this jug.

### Reflect

Children could mention using four 5 ml teaspoons or a measuring jug to measure 20 ml exactly.

## 6 Measure in litres

→ pages 128–130

- 8 l
  - 15 l
  - 29 l
- 5 l
  - 9 l
  - 1 l
- A: 10 l    B: 30 l    C: 15 l    D: 20 l
  - Barrel **A** now has half as much as barrel D.  
Barrel **C** now has half as much as barrel B.  
Barrel B now has **3** times as much as barrel A.
- Children should circle:  
Bucket: **5 l**  
Juice carton: **250 ml**  
Paddling pool: **100 l**
- Olivia should fill the 7 l bucket and then use it to fill the 4 l bucket. There will be 3 l left in the 7 l bucket.
  - Olivia should fill two 4 l buckets and pour them into the 7 l bucket until it is full. There will be 1 l left in the second 4 l bucket.

### Reflect

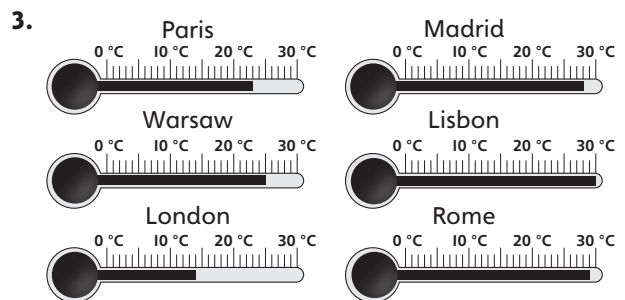
Children's responses will vary depending on what they have learnt.

## 7 Measure temperature using a thermometer

→ pages 131–133

- 25 °C
  - 19 °C
  - 20 °C
  - 23 °C
- 8 °C    c) 4 °C
  - 11 °C    d) 2 °C

Coollest to warmest: 2 °C, 4 °C, 8 °C 11 °C.



- Madrid is **5** degrees warmer than Paris.  
Warsaw is 5 degrees cooler than **Lisbon**.  
**Lisbon** is 2 degrees warmer than **Madrid**. / **Warsaw** is 2 degrees warmer than **Paris**.

5. Children's answers will vary. For example:  
**London is 9 degrees cooler than Paris.**  
**Warsaw is 11 degrees warmer than London.**

**Reflect**

Estimations should show a warm temperature due to the full sun, for example, between 18 °C and 30 °C.

**8 Read thermometers**

→ pages 134–136

1. a) b) c)

2. Children should tick:



3. Children should tick:

a) 0 °C 20 °C

b) 0 °C 50 °C

c) 0 °C 10 °C 20 °C

d) 0 °C 10 °C 20 °C

4.

**Reflect**

Children should explain working out the intervals on the scales of the thermometers and that the level of the liquid tells you the temperature.

**My journal**

→ page 137

First I **found the mass of B:  $20 - 5 = 15$  kg.**  
 Then I **found the mass of A:  $15 \div 3 = 5$  kg.**  
 Next I **found the mass of C:  $5 \times 5 - 15 = 10$  kg.**  
 A = 5 kg      B = 15 kg      C = 10 kg

**Power puzzle**

→ page 138

Children's answers will depend on the jug they used but the increase should be 100 g each time, as 1 ml = 1 g. If children subtract the mass of the jug they should discover that 100 ml = 100 g.

I notice that **the mass increases by 100 g each time.**