

HeadStart

primary



MASTERING THE MATHEMATICS CURRICULUM YEAR 1

Part 3

Name:

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YEAR 1: MASTERING THE MATHS CURRICULUM

Introduction - National Curriculum

This booklet is Part 3 of a 3-booklet series which covers all the 'matters, skills and processes' specified in the Mathematics National Curriculum. These 'matters, skills and processes' are often referred to as 'learning objectives' or 'learning outcomes'.

In Year 1, the focus is to develop confidence and mental fluency with whole numbers, counting and place value. Children begin to use this fluency with numbers to solve simple calculations, and to develop their understanding of simple fractions. In addition, children develop a basic understanding of measurement and geometry (shape and position/direction).

The specific objectives covered in this booklet are identified on the contents page. The 3 booklets in the series cover all the National Curriculum objectives for Year 1.

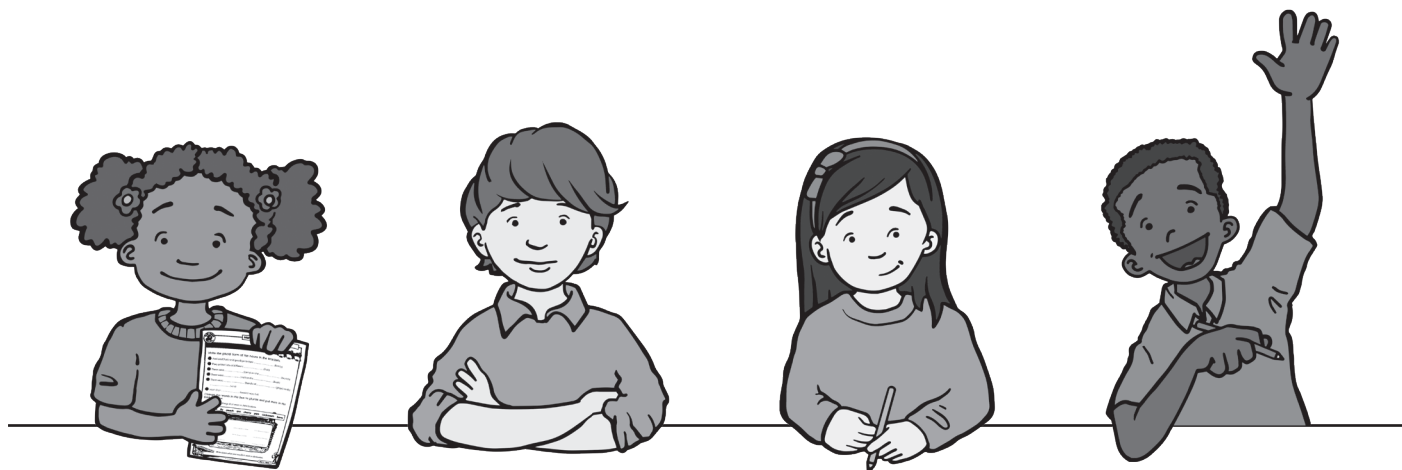
Content of the booklet

The content is ideal for reinforcement and consolidation of taught objectives, which can be done in school or as home learning. It can also be used to introduce new National Curriculum objectives which may be unfamiliar to children. In general, the practice examples are arranged so that they become progressively more difficult working down the page.

Using the booklet

For children in Year 1, who are still developing reading skills, it may be beneficial for some pages to be read by an adult so that children are able to focus on the mathematics.

The booklet is designed so that children are able to write their answers directly onto the pages. If any additional working out or counting is necessary, an exercise book or paper would be needed.



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Measurement

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Geometry – properties of shapes

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Page 15	Recognise and name common 3-D shapes

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FURTHER MASTERY PAGES FOR EACH DOMAIN

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Pages 23–24	Multiplication and Division
Pages 25–26	Fractions
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Measurement

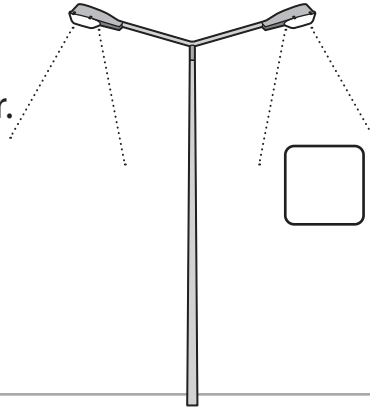
Name: _____

Compare, describe and solve problems for lengths and heights

- 1 Which is **shorter**? Put a tick (✓) by your answer.

☐☐

- 2 Which is **taller**?
Put a tick (✓) by your answer.

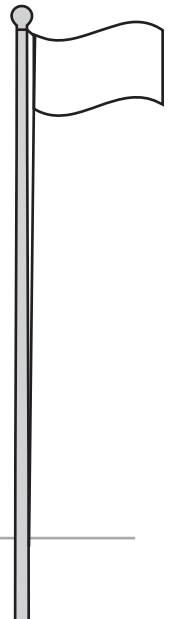
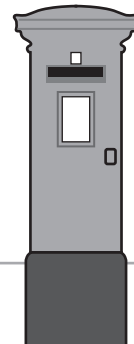
☐☐

- 3 Write a word to complete each sentence, so that it compares the **length** or **height**.

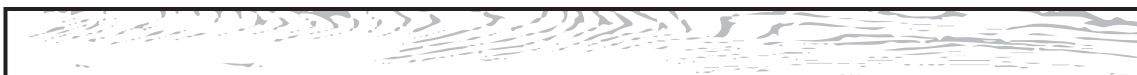


- a The matchstick is than the dog bone.

- b The flagpole is than the postbox.



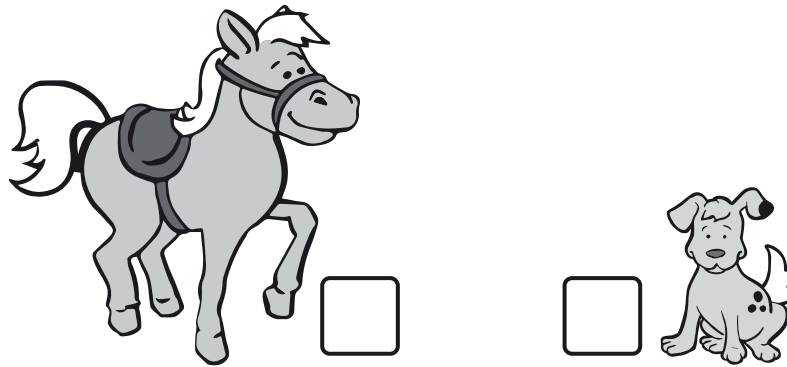
- 4 How many cricket bats would you need to **equal** the length of the wood?



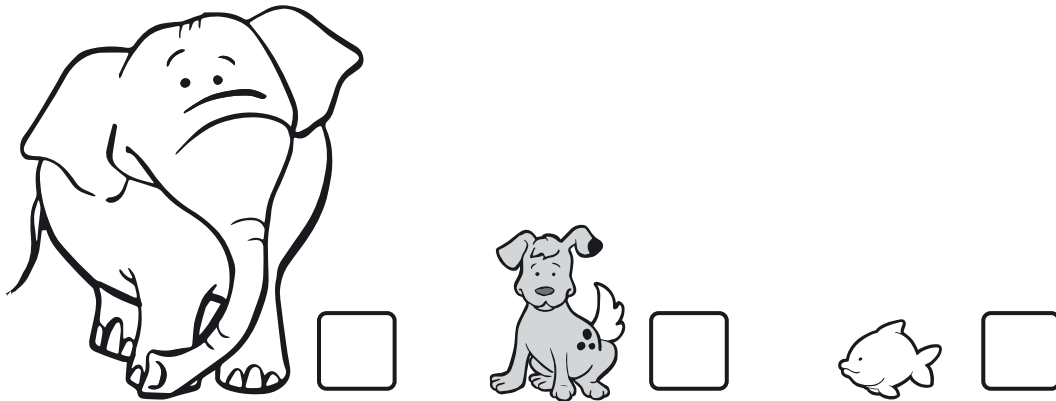
Name: _____

Compare, describe and solve problems for mass/weight

- 1 Which animal is **heavier**? Put a tick (✓) by your answer.



- 2 Put a circle around the **heaviest** and a tick (✓) by the lightest.

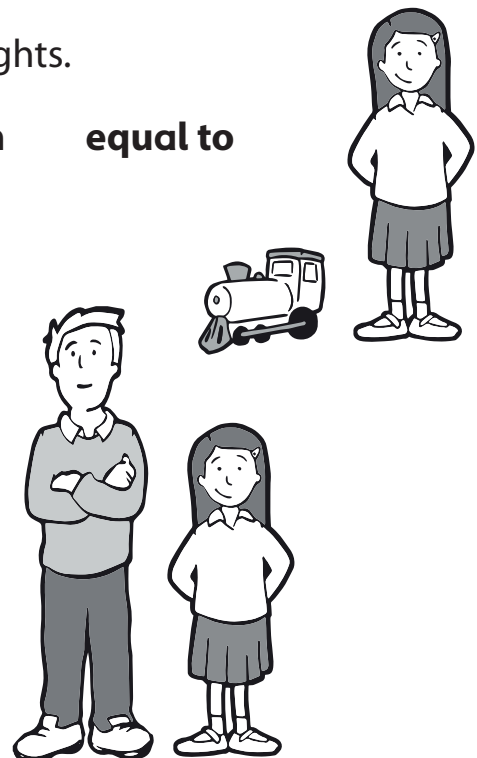


- 3 Complete each sentence to compare the weights.

Choose from: **lighter than** **heavier than** **equal to**

- a The toy train is the girl.

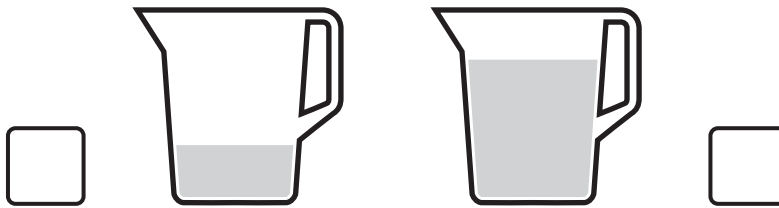
- b The man is the girl.



Name: _____

Compare, describe and solve problems for capacity/volume

- 1 Which jug has more water? Put a tick (✓) by your answer.



- 2 Draw a line from each glass to the correct word or phrase.

half full

full

quarter full

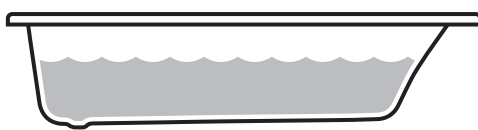
empty



- 3 Write a word to complete each sentence so that it compares the capacity. Choose from: **more** **less**

a The glass has water than the vase.

b The bath has water than the glass.



bath

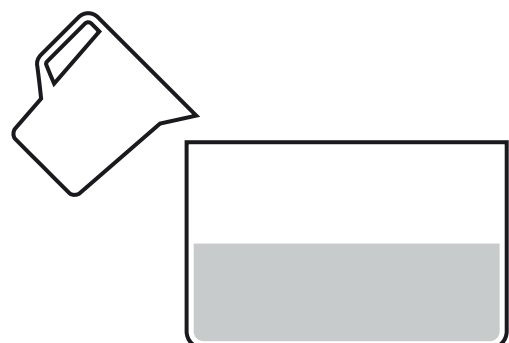


glass



vase

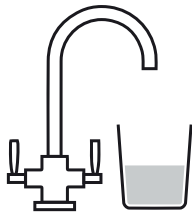
- 4 The jug was full with water. Then Yannick poured the water into the container. Which has the greater capacity, the jug or the container?



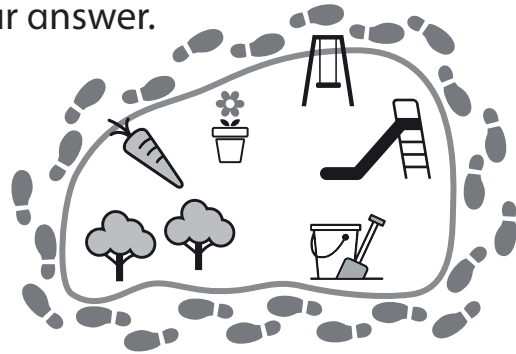
Name: _____

Compare, describe and solve problems for time

- 1 Which is quicker? Put a tick (✓) by your answer.



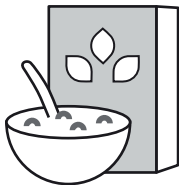
pouring a glass of water

☐

walking around the park

☐

- 2 Which happens later in the day? Put a tick (✓) by your answer.



eating breakfast

☐

walking home from school

☐

- 3 Write a word in each sentence to compare the time.

Choose from: **before** **quicker** **after** **slower**

- a It is to climb **3** stairs than to climb a mountain.

- b **8 o'clock** in the morning is **6 o'clock** in the evening.



- 4 It took Kira **50 seconds** to swim a length.
It took Kai **44 seconds** to swim a length.

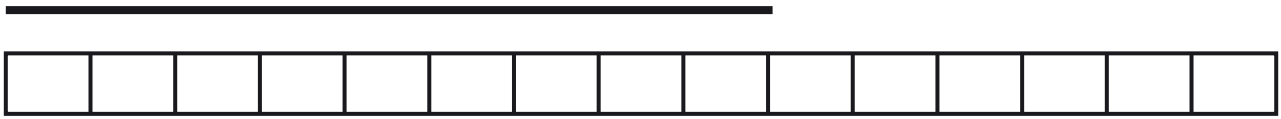
Who was slower?



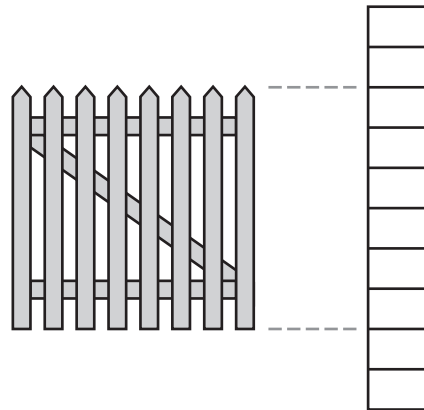
Name: _____

Measure and begin to record lengths and heights

- 1 How many units long is the line?



- 2 How many units high is the gate?



- 3 Each section of the rope measures one **centimetre** (cm).

How long is the rope?



- 4 Use your ruler to measure the length of each line.

a

c

b

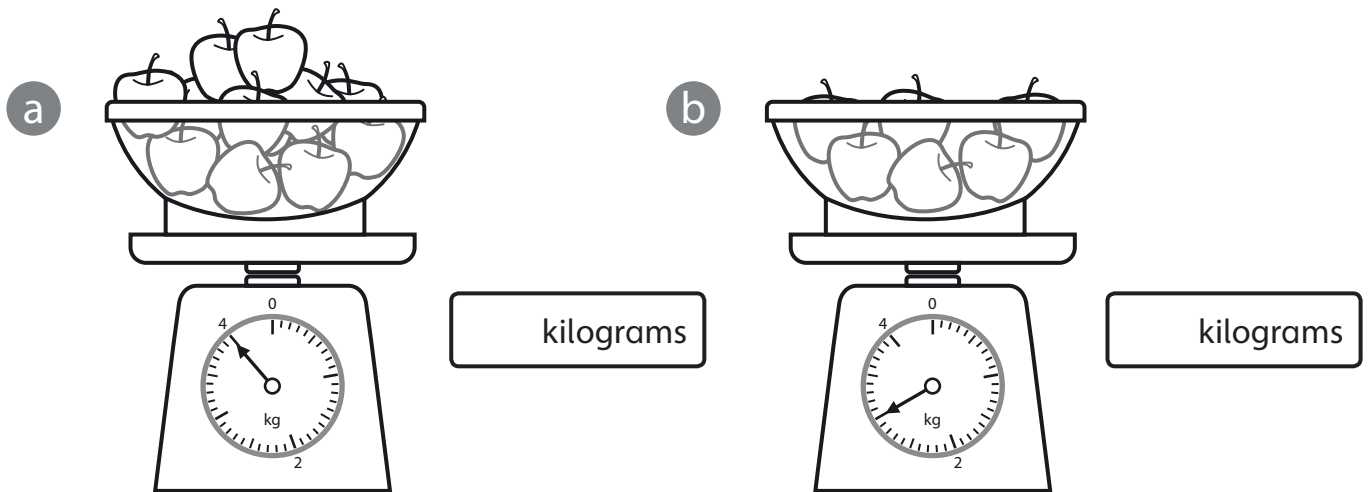
Name: _____

Measure and begin to record mass/weight

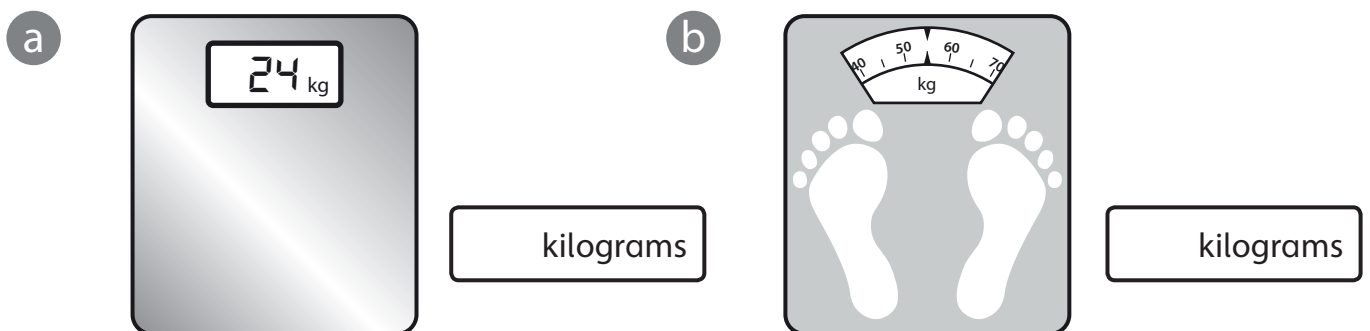
1 Put a tick (✓) by the scales you could use to measure weight.



2 What is the weight shown on each scale?



3 Now try these.



Name: _____

Measure and begin to record capacity/volume

- 1 Azra was making a jug of fruit punch. Which of the following could she have used to measure the liquid she needed? Tick (✓) the boxes.



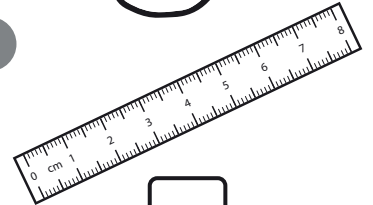
a

☐

c

☐

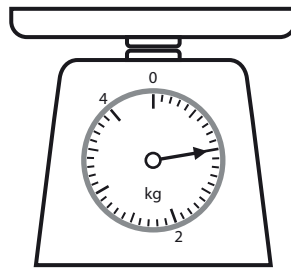
e

☐

b

☐

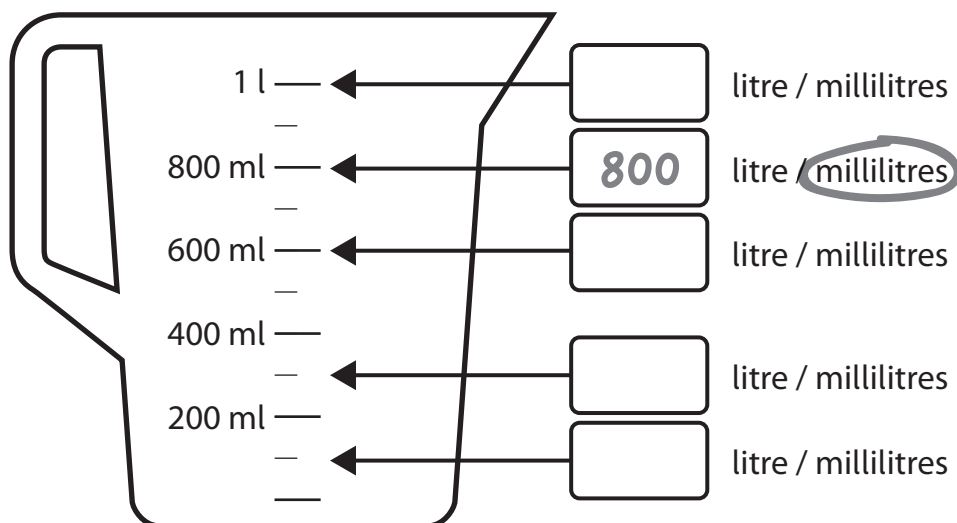
d

☐

f

☐

- 2 Write down the amount shown by each arrow. Circle whether your answer is **millilitres** (ml) or **litres** (l). One is done for you.



Name: _____

Measure and begin to record time

- 1 Bethany walks across the classroom. Which of the following amounts of time could it take her? Circle your answer.

12 minutes / 12 seconds / 12 hours

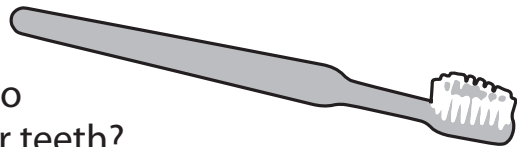


- 2 During the night, Rosa goes to bed for **10 seconds / 10 minutes / 10 hours**. Circle the correct amount of time.

- 3 On Tuesdays, Mrs Zafar's class learn Maths for **50 seconds / 50 minutes / 50 hours**. Circle the correct amount of time.

- 4 For the following, you will need to use the words **seconds, minutes** or **hours** in your answer.

- a How long do you think it would take you to wash your hands and face, and clean your teeth?



- b How long do you think it would take you to say, "Good morning, Mrs Topping"?



- c Alice starts reading her book at **10 o'clock** in the morning. She finishes it at **11 o'clock** in the morning. How long does Alice read for?

- d A show starts at **4 o'clock** in the evening. It ends at **7 o'clock** in the evening. How long does the show last for?



4:00

7:00



Name: _____

Recognise and know the value of different denominations of coins and notes

1 Draw lines to match the money to the value.

£1 £10 ONE POUND ONE POUND £5

10p 5p

1p 50p

£10



2 Put a tick (✓) by the set of coins which could be used to pay for the lollipop.

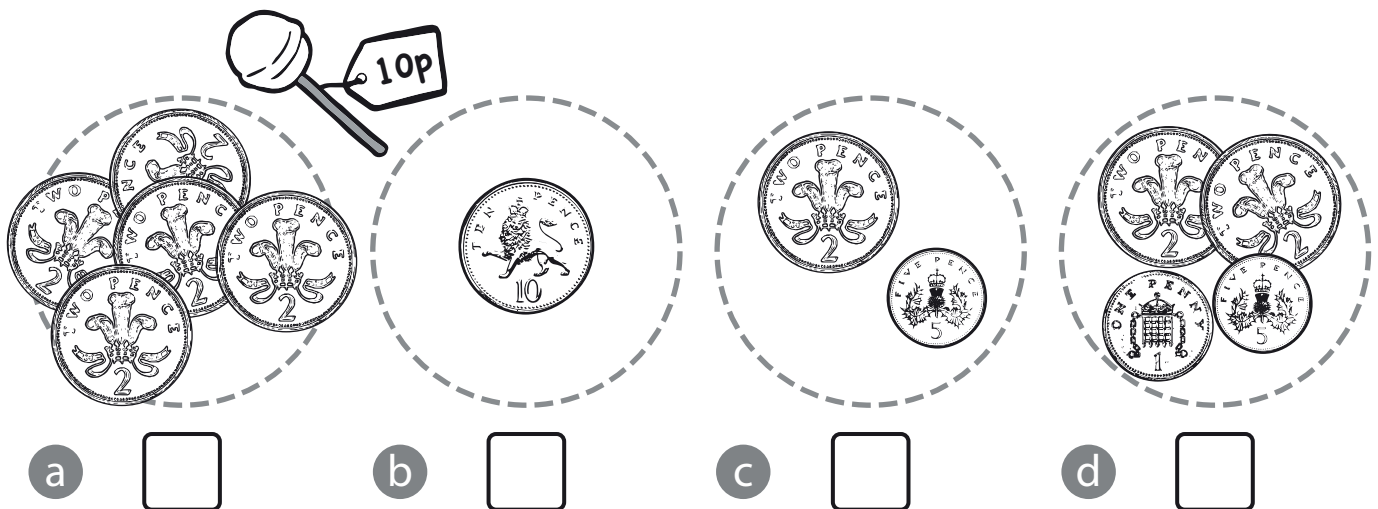
10p

a ☐

b ☐

c ☐

d ☐



3 Draw 2 different sets of coins which you could use to buy the cake.



Sequence events in chronological order using appropriate language

- 1** Write a word in the spaces so that the story makes sense.

Choose from:

evening before morning first later after next until

Use each word once.

Abigail's Day

....., Abigail put on her slippers ., she went

downstairs to eat her breakfast . she got dressed,

Abigail cleaned her teeth . in the,

she went to the park . In the, she played with her

friend , Ayub. that, Abigail watched some

television , it was time for bed .

- 2** Write **today**, **yesterday** or **tomorrow** in the sentences below.

I will be going swimming 

..... is my birthday. 

..... it was raining. 



Recognise and use the language related to dates

- 1** Complete all the days of the week in the correct order, starting with Monday.

Monday
.....
.....

- 2** Complete the sentences below. Choose from: **months weeks days**

- a There are **4** in one month.
b There are **7** in one week.
c There are **12** in one year.

- 3** Write the correct months in the spaces below.

- a The first month of the year is .
b is the month before May.
c is the month after August.
d The last month of the year is .

- 4** Liam wrote **24/10/2015** in his maths book.

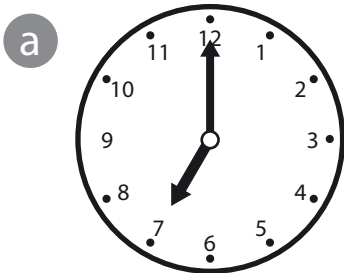
- a Which number means the day?
b What was the year?
c Write the month as a word.



Name: _____

Tell the time to the hour and half past hour

1 What time do the clock faces show? Circle your answers.

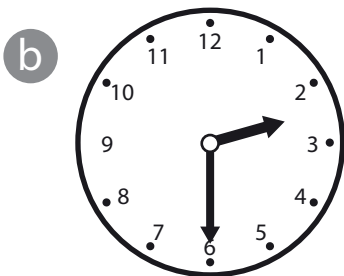


6 o'clock

7 o'clock

12 o'clock

half past 4



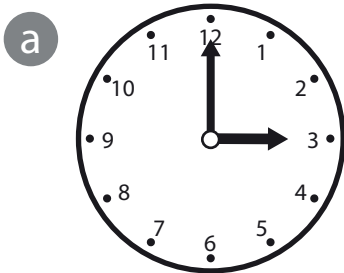
half past 6

6 o'clock

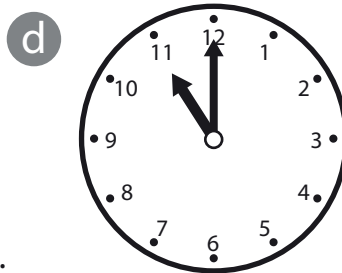
2 o'clock

half past 2

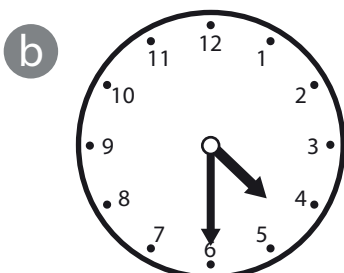
2 Write the correct time beside each clock.



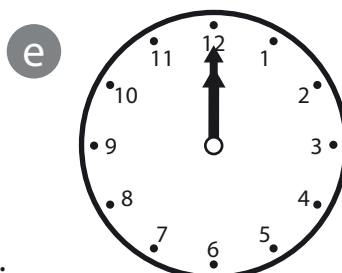
.....



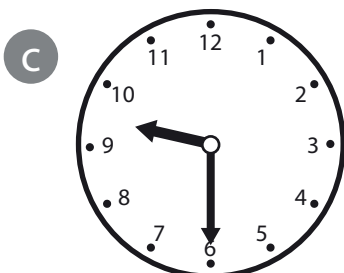
.....



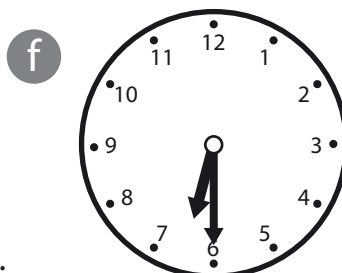
.....



.....



.....

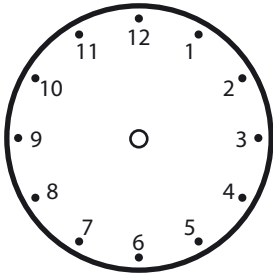


.....

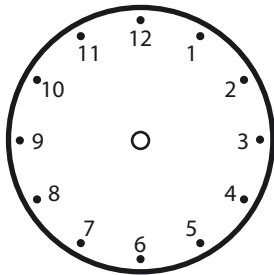
Name: _____

Draw the hands on a clock face to the hour and half past the hour

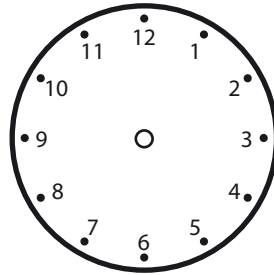
1 Draw the times on each clock face.



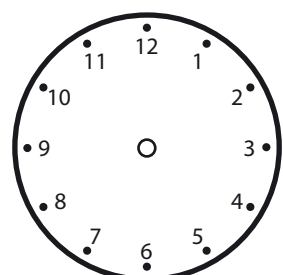
a 7 o'clock



b 5 o'clock

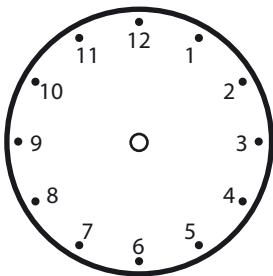


c 4 o'clock

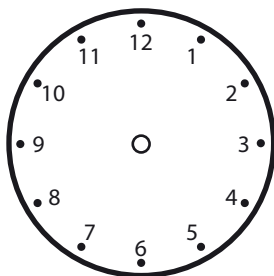


d 10 o'clock

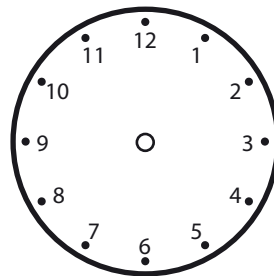
2 Now try these.



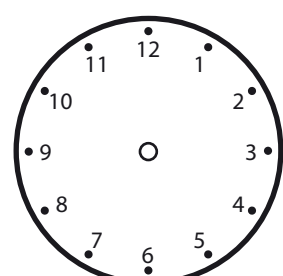
a half past 3



b half past 11



c half past 5



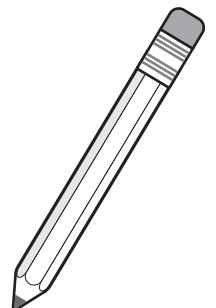
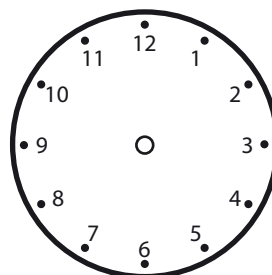
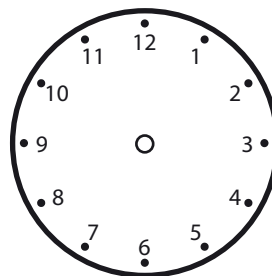
d half past 12

3 Levi went swimming at **6 o'clock**.

a Draw the time on the clock face.



b He got out of the water **half an hour** later. Draw the time.



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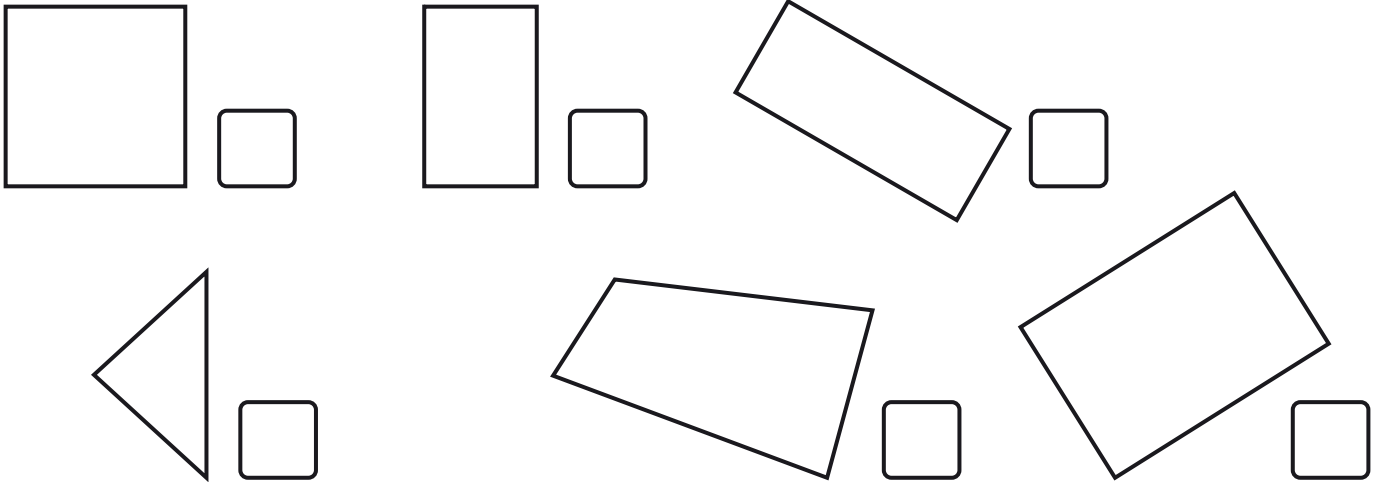
Geometry

Properties of shapes

Name: _____

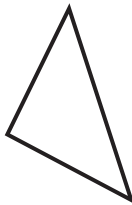
Recognise and name common 2-D shapes

1 Put a tick (✓) by all the rectangles below.



2

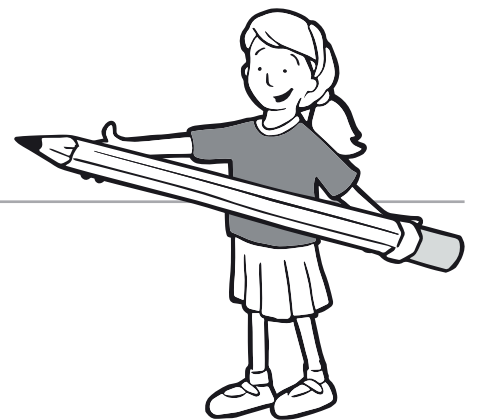
What shape is this?



Explain how you know.

.....

3 Draw a triangle inside a circle.



4 Leah said, "A square is just a shape with 4 sides."

Is she correct?



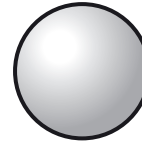
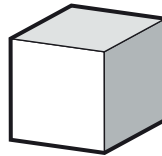
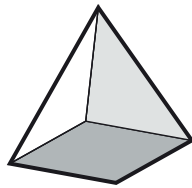
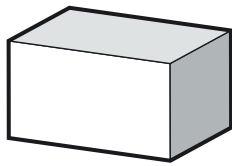
Explain your answer.

.....

Name: _____

Recognise and name common 3-D shapes

1 Draw a line from each **3-D** shape to its name.



cube

sphere

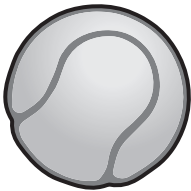
cone

cuboid

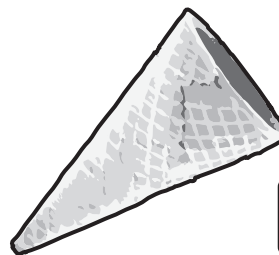
pyramid

2 Write the name of the shape by each item.

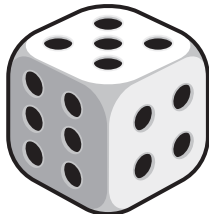
a



c



b



d



3 Max said, ...

Is he correct?

Explain your answer.

.....

A cube is
just another name
for a cuboid.



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Geometry

Position and direction

Name: _____

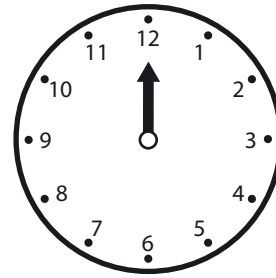
Describe position, direction and movement using an amount of turn

1 The hour hand is pointing to **12**.

a If it makes **half** a turn, what number will it point to?

b What number will it point to if it makes a **quarter** turn clockwise?

c The hand is pointing to **6**. Anna makes a **quarter** turn anti-clockwise. What number does she turn the hand to?



2 Look at the spinner.

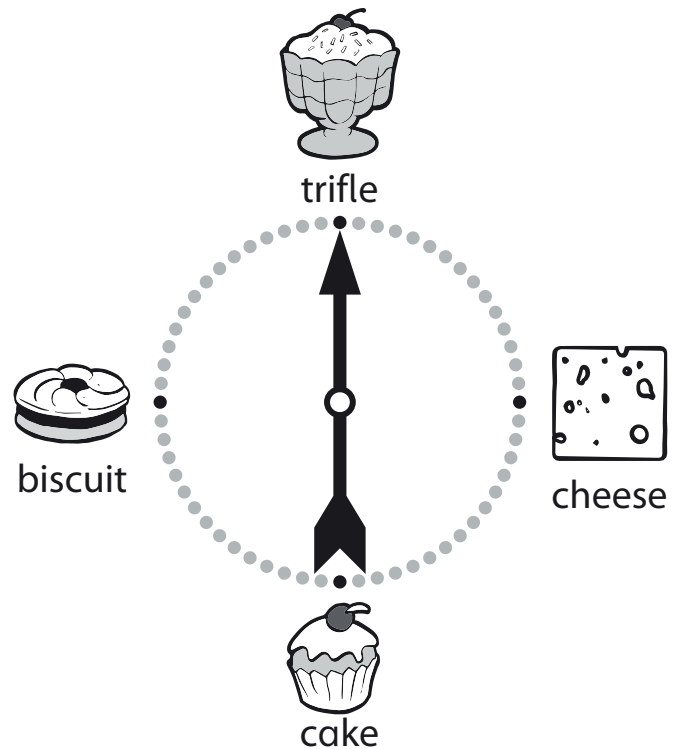
a What will the spinner point to if it makes a **full** turn?

b What will the spinner point to if it makes a **quarter** turn anti-clockwise?

c The spinner turns to point to the cake, after passing the biscuit. Describe its turn.

.....

d The spinner is pointing to the cheese. Molly makes a **quarter** turn clockwise, then **half** a turn anti-clockwise. What is the spinner pointing to now?



Name: _____

Use appropriate language to describe position, direction and movement

1 Look at the position of the vehicles below.

a What is on the top right?



bicycle



lorry

b What is on the bottom left?



bus



car

c What is on the middle right?



ice-cream van

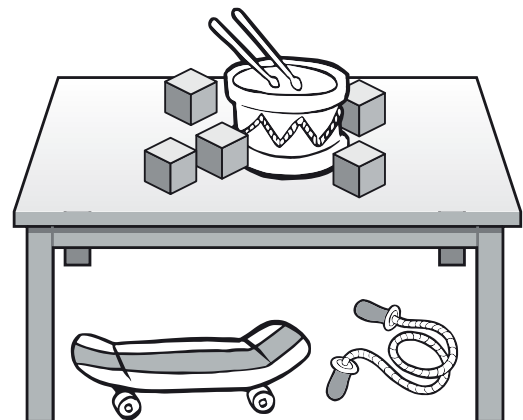


coach

d Describe the position of the bicycle.

The bicycle is on the

2 Underline the correct words to complete each sentence.



a The drum is **on top of** / **underneath** / **beside** the table.

b The skateboard is **on top of** / **underneath** / **beside** the table.

c The toy car is **inside** / **between** / **outside** the table and the toy box.

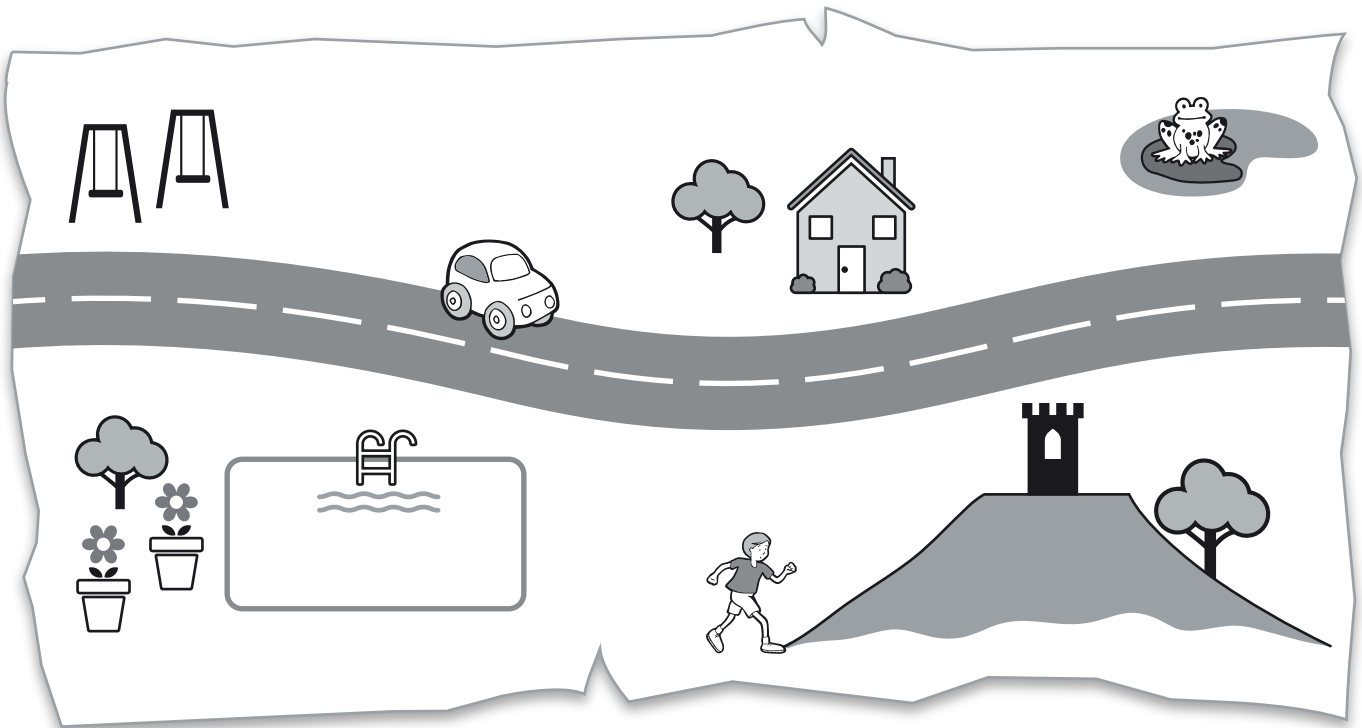
d The teddy is **inside** / **outside** / **next to** the toy box.

e The cubes are **on top of** / **around** / **inside** the drum.

f The skipping rope is **around** / **near** / **above** the skateboard.

Continued overleaf

- 3** Look at the plan and then put a word in each of the spaces below.

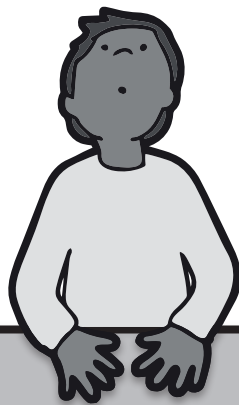


Choose from: **close forwards backwards up far down**

- a To get to the house , the car  should go
- b To get to the swings , the car  should go
- c The garden  is to the swimming pool .
- d The pond  is from the garden .
- e To reach the  tower, the boy  should walk the hill .
- f The tree  is further the hill  than the tower .

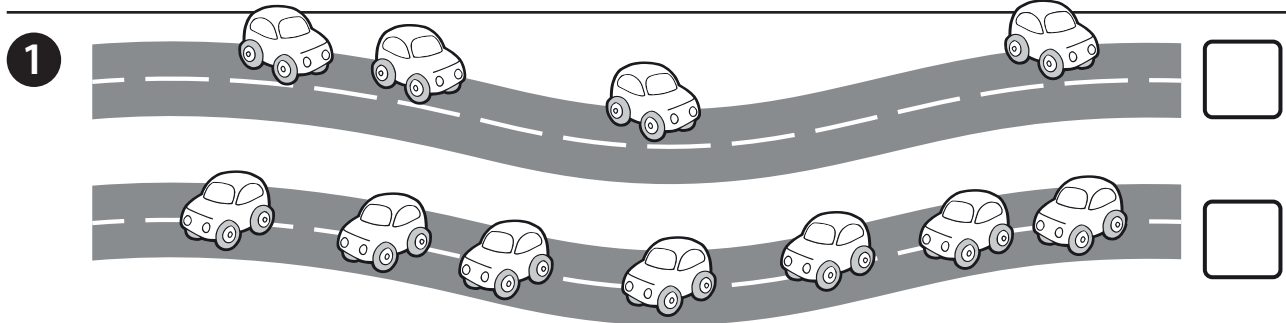
HeadStart

primary



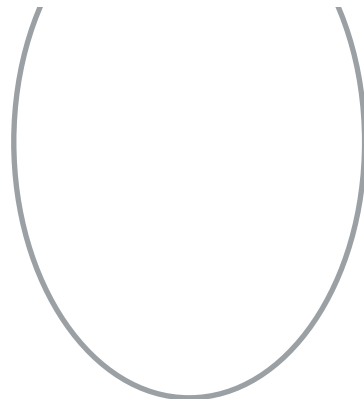
Further mastery

Further mastery – number and place value



- a Put a tick (✓) by the road which has more cars.
- b Count how many cars there are altogether and write your answer in digits and words.

- 2 Draw the shapes on the **second** necklace so that it is the same pattern as the **first** necklace.



- 3 a Draw this pattern in the boxes below.

The **first** shape is a square. The **second** and **fifth** shapes are triangles. The **third** and **fourth** shapes are circles. The **sixth** shape is a square.

- b What do you think the next shape is?

Name: _____

4 Write the number **32** in the correct place on each grid below.

a

20	21	22	23	24
25				



b

20	21	22
23	24	25



5 Write the missing numbers in the boxes.

- a** 17 is 1 less than .
- b** 24 is 1 more than .
- c** 1 more than 39 is .
- d** is 1 less than 59.
- e** 79 is 1 less than .



6 Put the missing numbers in each section. Look carefully.

a

56					51				47		
----	--	--	--	--	----	--	--	--	----	--	--

b

8	10						22				
---	----	--	--	--	--	--	----	--	--	--	--

c

5			20	25							
---	--	--	----	----	--	--	--	--	--	--	--

d

	90					40			10	
--	----	--	--	--	--	----	--	--	----	--

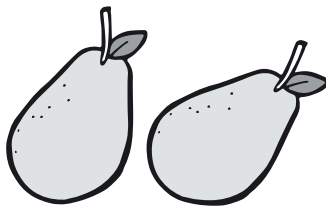
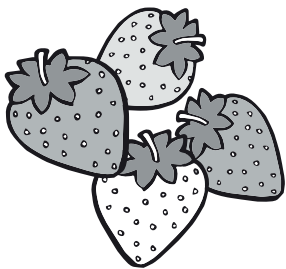
Further mastery – addition and subtraction

- 1** Complete the pattern by shading rows **3, 4** and **5**.
 Rows **1** and **2** are completed.
 Complete the shading and number sentences for rows **6, 7** and **8**.

Row 1	● ● ● ● ● ● ●	$0 + 7 = 7$
Row 2	○ ● ● ● ● ● ●	$1 + 6 = 7$
Row 3	○ ○ ○ ○ ○ ○ ○	$2 + 5 = 7$
Row 4	○ ○ ○ ○ ○ ○ ○	$3 + 4 = 7$
Row 5	○ ○ ○ ○ ○ ○ ○	$4 + 3 = 7$
Row 6	○ ○ ○ ○ ○ ○ ○	$\square + \square = \square$
Row 7	○ ○ ○ ○ ○ ○ ○	$\square + \square = \square$
Row 8	○ ○ ○ ○ ○ ○ ○	$\square + \square = \square$

- 2** The number sentences can be made from the pieces of fruit shown.

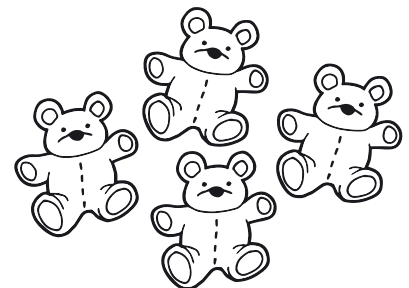
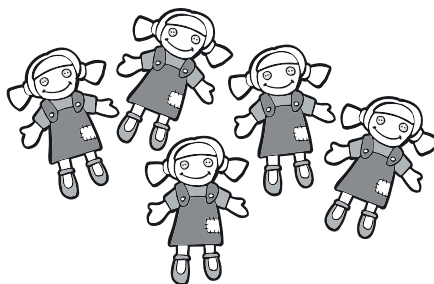
- a** Complete the missing numbers.



$$\begin{array}{rcl}
 4 + 2 & = & 6 \\
 \square + 4 & = & 6 \\
 6 - 2 & = & \square \\
 6 - \square & = & 2
 \end{array}$$

- b** Now write **4** number sentences for the pictures below.

$$\begin{array}{rcl}
 \square + \square & = & \square \\
 \square + \square & = & \square \\
 \square - \square & = & \square \\
 \square - \square & = & \square
 \end{array}$$



Continued overleaf

Name: _____

- 3** Complete the first number sentence and then use it to write **3** more sentences. An example is shown.

$$\boxed{3} + \boxed{2} = \boxed{5}$$

$$\boxed{2} + \boxed{3} = \boxed{5}$$

$$\boxed{5} - \boxed{2} = \boxed{3}$$

$$\boxed{5} - \boxed{3} = \boxed{2}$$

a $\boxed{7} + \boxed{3} = \boxed{}$

$$\boxed{} + \boxed{} = \boxed{}$$

$$\boxed{} - \boxed{} = \boxed{}$$

$$\boxed{} - \boxed{} = \boxed{}$$

b $15 - 8 = \boxed{}$

$$\boxed{} - \boxed{} = \boxed{}$$

$$\boxed{} + \boxed{} = \boxed{}$$

$$\boxed{} + \boxed{} = \boxed{}$$



- 4** **a** Complete the following.

$$4 + \boxed{} = 4$$

$$5 + \boxed{} = 6$$

$$7 - \boxed{} = 7$$

$$8 - \boxed{} = 2$$

$$12 - \boxed{} = 10$$

$$13 + \boxed{} = 13$$

- b** Use your answers to complete the sentences below.

If you subtract **0** from a number, the answer

If you add **0** to a number, the answer

- 5** Roha has **4** fewer toy cars than Leo. Leo has **13** toy cars.
Write a number sentence to work out how many toy cars Roha has.

$$\boxed{} \boxed{} \boxed{} = \boxed{}$$

- 6** Make up a problem to match this number sentence. $5 + 3 = 8$

.....

.....

Further mastery – multiplication and division

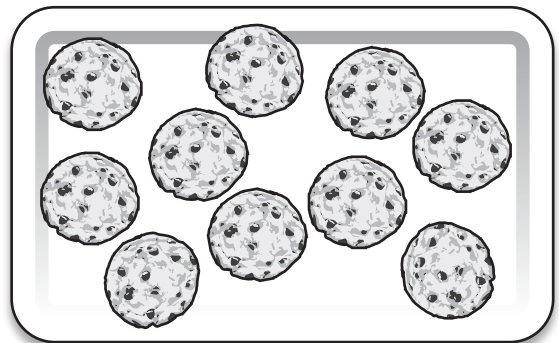
- 1** Megan is counting in **tens**, starting with **20**. Maisie is counting in **fives**, starting with **15**. Maisie says, "If we carry on counting, we will both say the number **95**."

Is Maisie correct? Try to explain your answer.

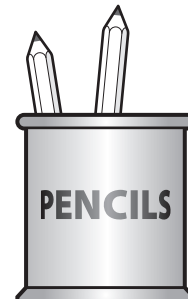
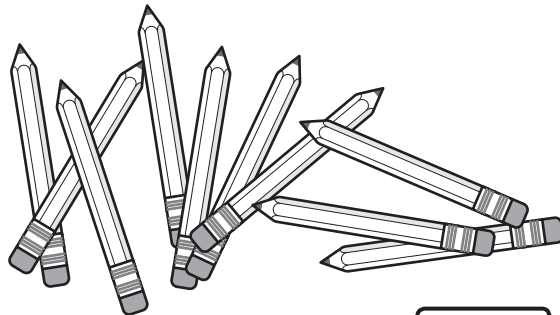
.....

- 2** There are **6** trays of biscuits. Each tray has the same number of biscuits.

How many biscuits are there altogether?

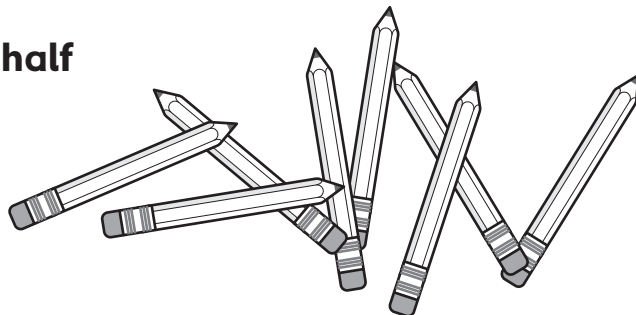


- 3** Zak has **12** pencils. He puts **2** pencils in each pencil pot.



How many pencil pots does he fill?

- 4** Zoya has **8** pencils. She puts **half** of the pencils on the desk.



How many pencils does Zoya put on the desk?

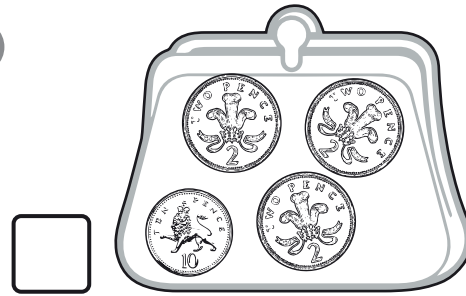
Name: _____

- 5 Molly has **16p**. Put a tick (✓) by the purses which could be Molly's.

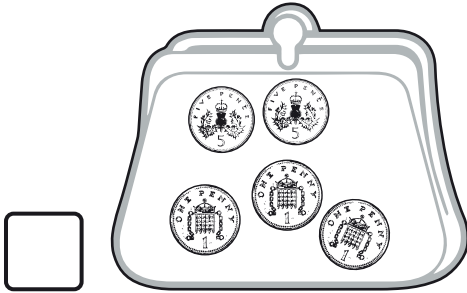
a



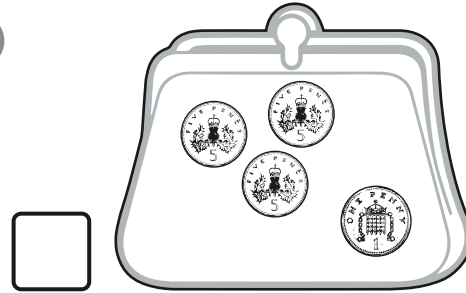
c



b



d



- 6 Now draw coins in these purses to equal **12p** in each purse. Make each purse different.



- 7 Orla has **3** strawberries.

- a Jamal has **double** the number of strawberries Orla has.

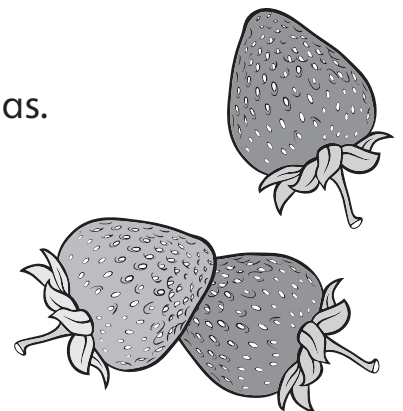
How many strawberries does Jamal have?

- b May has **5 times** as many strawberries as Jamal.

How many strawberries does May have?

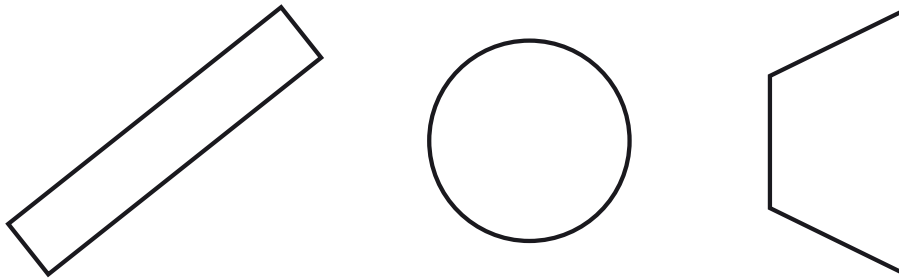
- c Aftab has **one third** as many strawberries as May.

How many strawberries does Aftab have?

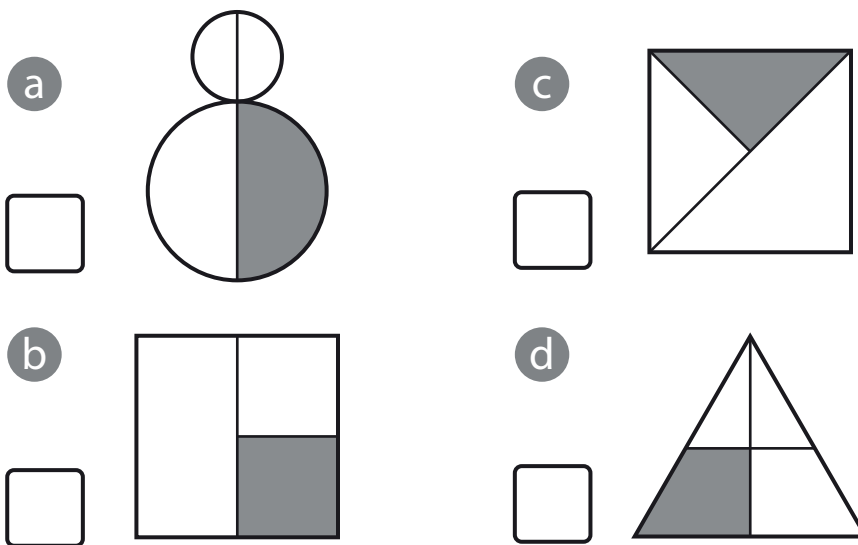


Further mastery – fractions

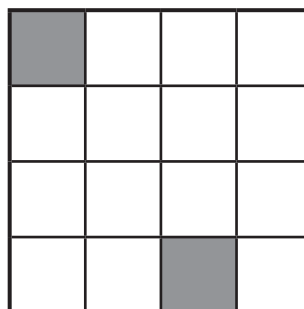
- 1 Shade **half** of each shape.



- 2 Tick (✓) the shapes which have **one quarter** shaded.



- 3 Complete the shading so that a **half** is not shaded.



- 4 Draw rings so that a **quarter** of the chocolates are in each ring.



Continued overleaf

Name: _____

- 5 Write the correct numbers in each box.

20			

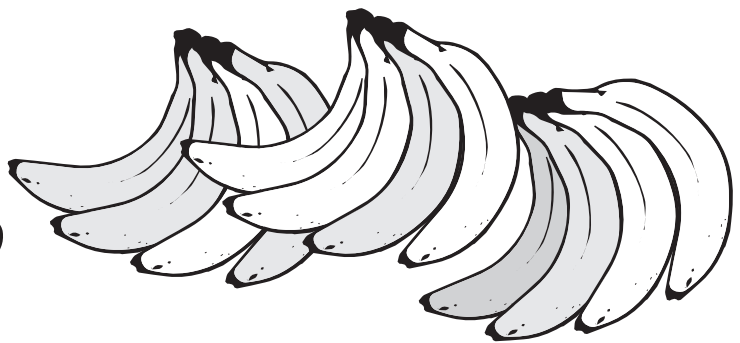
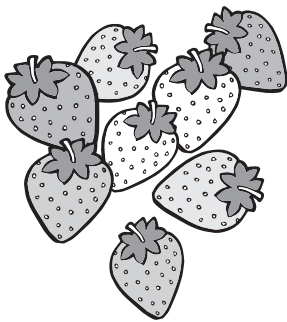
- 6 There are **18** children in a swimming pool.
Half of the children are boys.
10 of the children are girls.

Can this be correct?

Explain your answer.



- 7 Hugo, Max, Sean and Tegan share each type of fruit equally between them.



- a Complete the table to show how many of each fruit Max gets.

strawberries	apples	bananas

- b What fraction of the fruit does Tegan get?

- c What fraction of the fruit do Hugo and Sean get together?

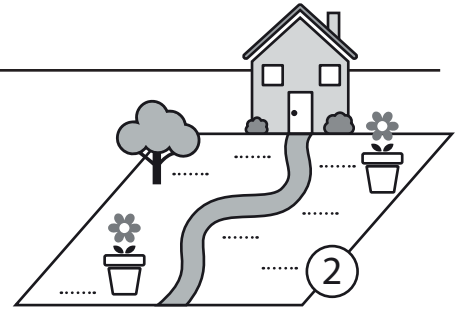
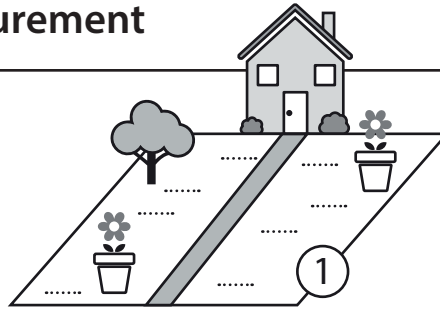
Name: _____

Further mastery – measurement

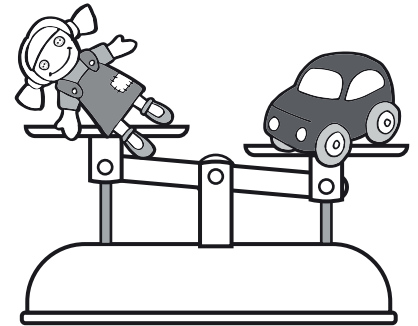
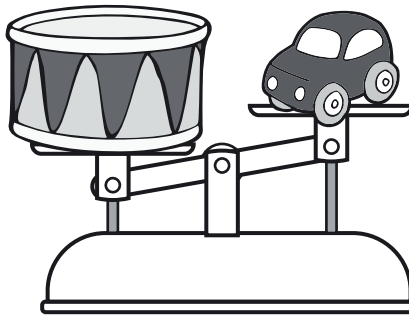
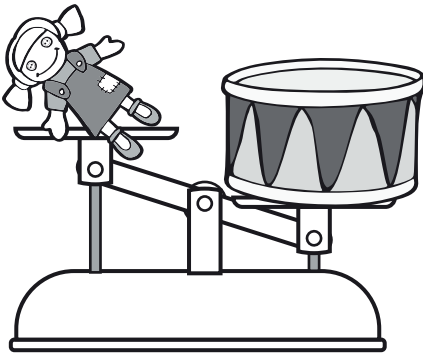
- 1 Which path is longer?

house number

Explain your answer.



- 2 Look at the scales below.



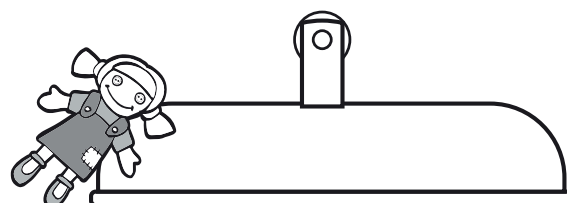
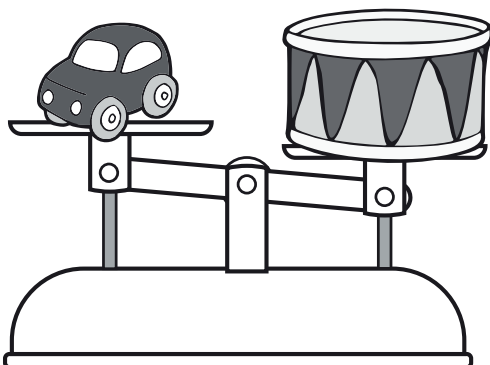
- a Which toy is the heaviest? Circle your answer.



- b Which toy is the lightest? Circle your answer.



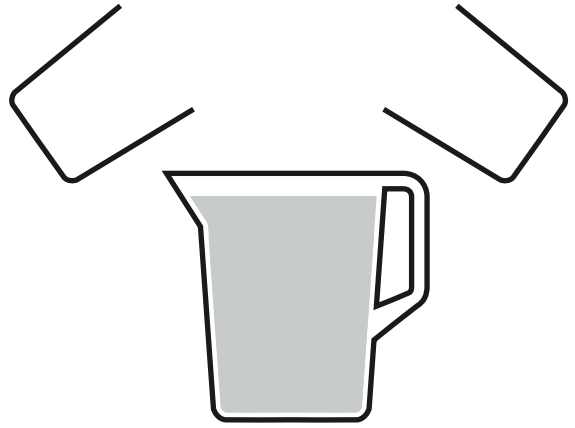
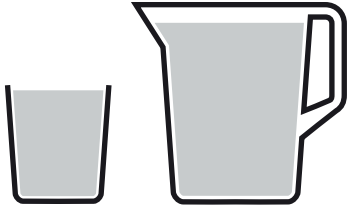
- 3 Complete the **second** scales below to show what you think would happen, if the doll and the car were together on **one** side of the scales, and the drum was on the other.



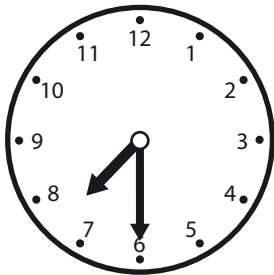
Continued overleaf

Name: _____

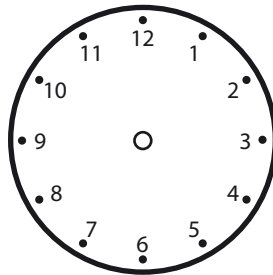
- 4 Rose had **two** glasses full of juice. She poured them into the jug. Circle the container with the greater capacity.



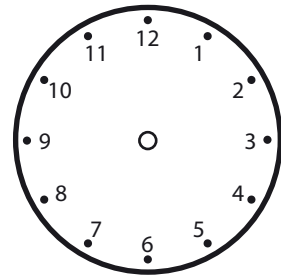
- 5 The **first** clock shows the time Alfie sets off for school. Lucy sets off **half an hour** later than Alfie and Stefan sets off **half an hour** later than Lucy. Complete the clocks below.



time Alfie
sets off



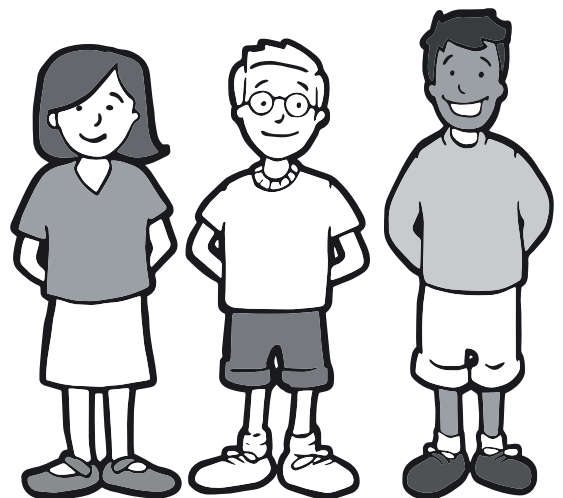
time Lucy
sets off



time Stefan
sets off

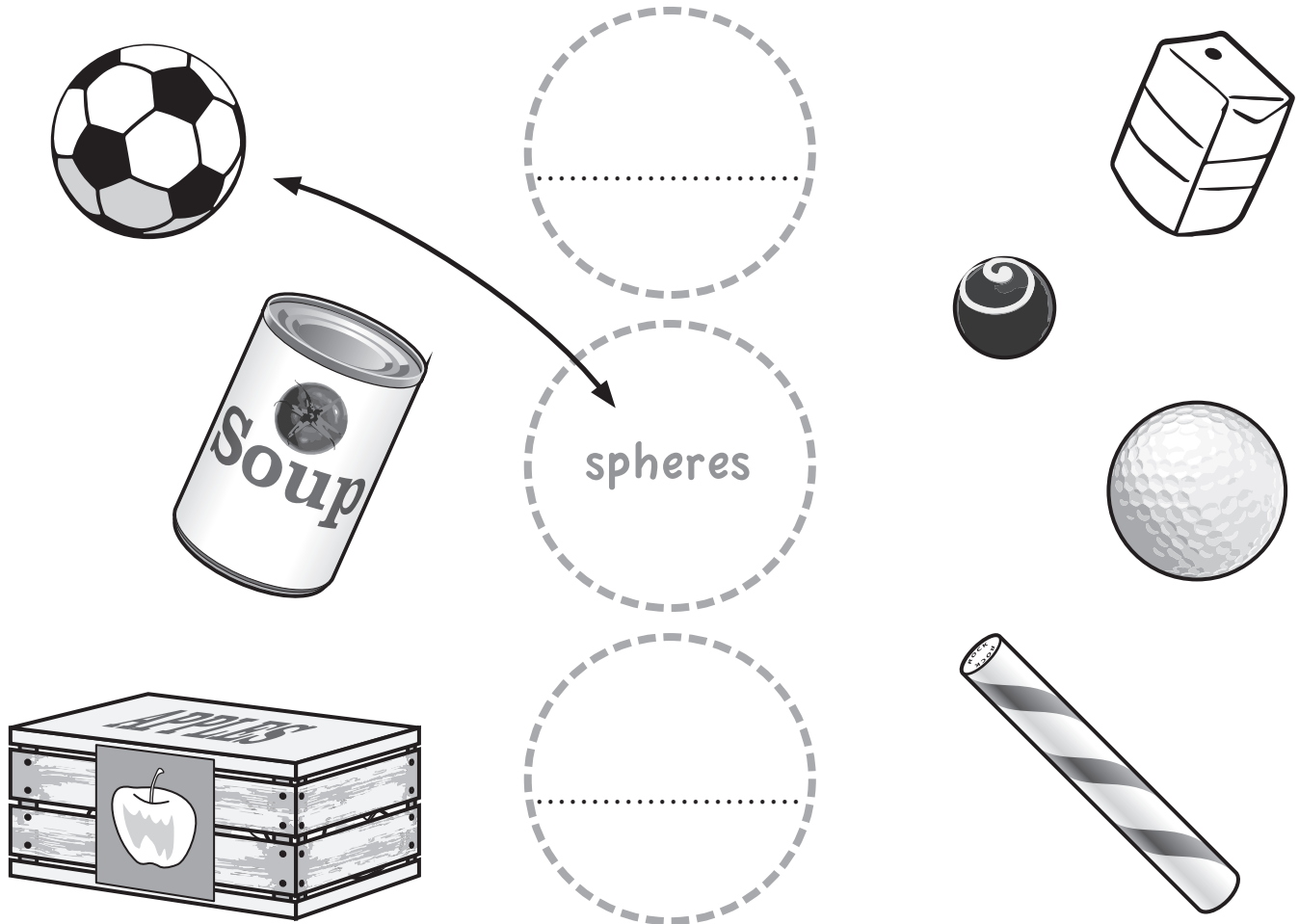
- 6 Put **T** (true) or **F** (false) by each of the statements.

- a **1 year** is shorter than **1 week**. ☐
- b **1 day** is shorter than **1 week**. ☐
- c **1 month** is shorter than **1 week**. ☐
- d **1 minute** is shorter than **1 week**. ☐
- e **1 hour** is shorter than **1 minute**. ☐

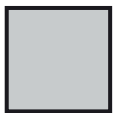
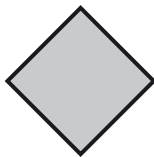
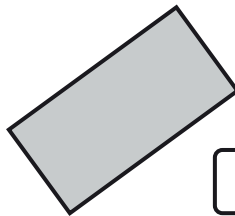
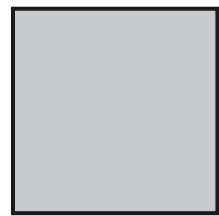


Further mastery – geometry

- 1** Draw arrows to put each item in a circle. Write the name of the shapes in each circle. An example is shown.



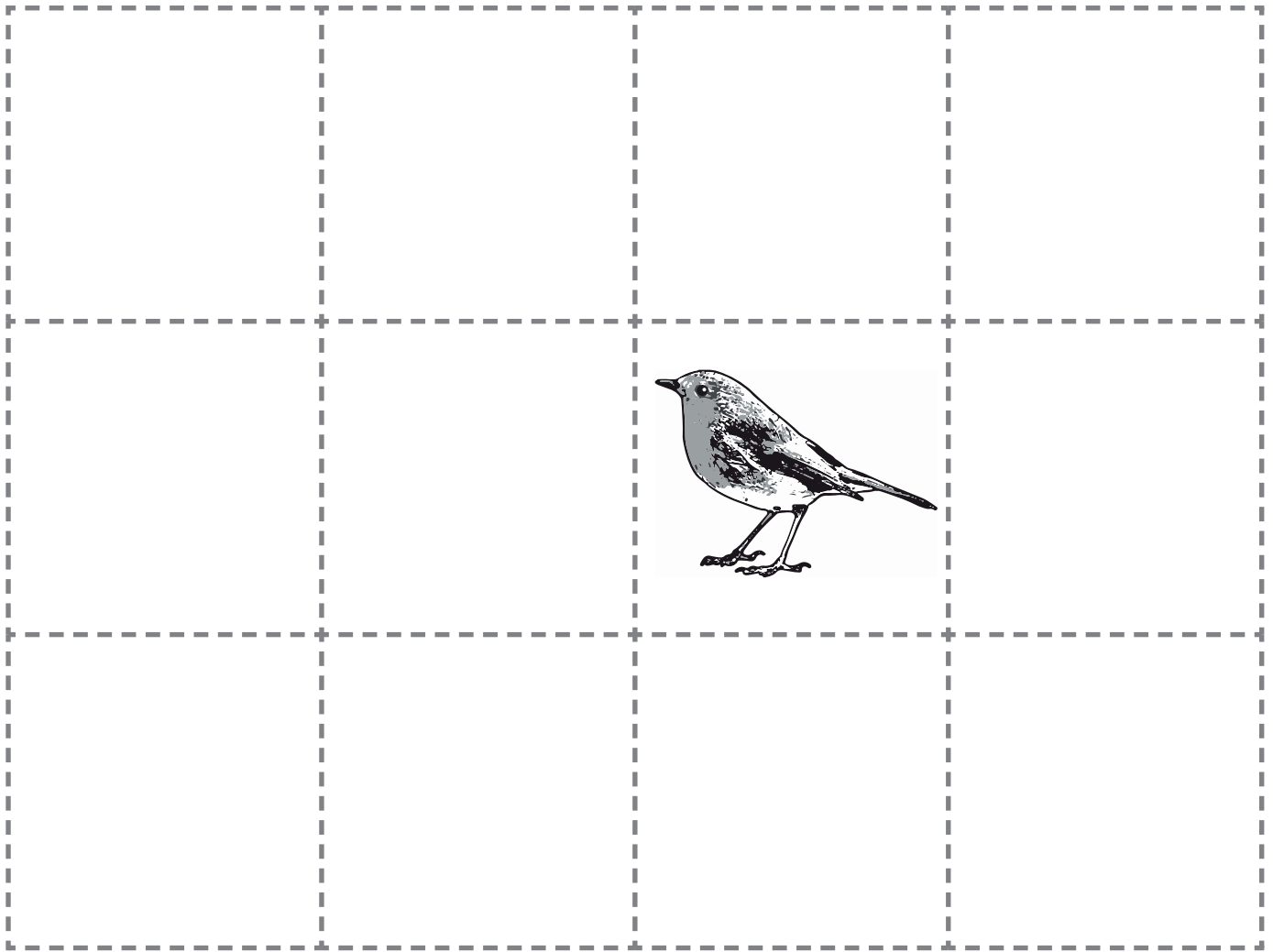
- 2** Put a tick by the odd one out.

☐☐☐☐

Explain your answer.

.....

.....

3

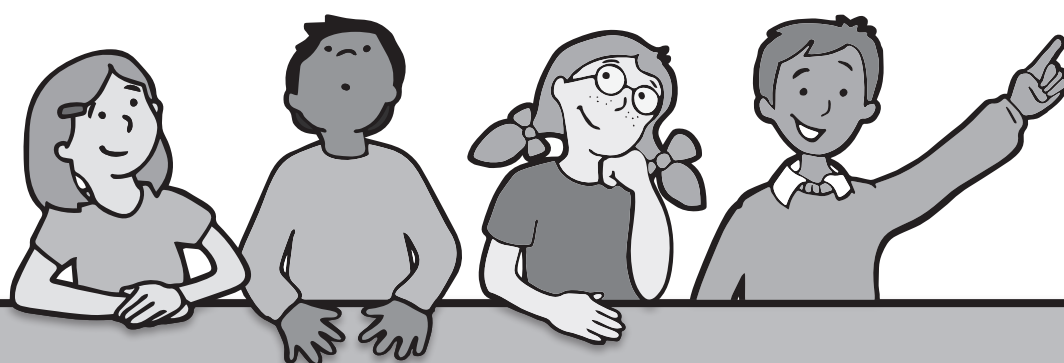
- a Draw a circle ○ in the top row, **third** from the right.
- b Draw a triangle △ in the bottom row, **second** from the left.
- c Describe the position of the bird.
-

- d Put a cross ✕ underneath the bird.
- e Put a dot ● next to the circle, on top of the bird.
- f Put **2** dots ●● in the top right hand corner.



HeadStart

primary



MASTERING THE MATHEMATICS CURRICULUM
YEAR 1

Part 3

ANSWERS

Answers

Page 1

- 1 tick by the pencil
- 2 tick by the lamp post
- 3 a) shorter b) taller, higher or longer
- 4 3

Page 2

- 1 tick by the horse
- 2 circle around the elephant, tick by the fish
- 3 a) lighter than b) heavier than

Page 3

- 1 tick by 2nd jug
- 2 lines drawn correctly
- 3 a) less b) more
- 4 container

Page 4

- 1 tick by 'pouring a glass of water'
- 2 tick by 'walking home from school'
- 3 a) quicker b) before
- 4 Kira

Page 5

- 1 9 units
- 2 6 units
- 3 10 centimetres
- 4 a) 4 centimetres b) 7 centimetres
c) 8 centimetres

Page 6

- 1 ticks by a and d
- 2 a) 4 kilograms b) 3 kilograms
- 3 a) 24 kilograms b) 55 kilograms

Page 7

- 1 ticks by a, b, c and f
- 2 from top: 1 litre, 600 millilitres, 300 millilitres,
100 millilitres

Page 8

- 1 12 seconds circled
- 2 10 hours circled
- 3 50 minutes circled
- 4 a) reasonable amount of time b) reasonable
amount of time
d) 1 hour or 60 minutes d) 3 hours

Page 9

- 1 money and values correctly matched
- 2 ticks by a, b and d
- 3 2 different combinations, e.g $12 \times 1p$, $6 \times 2p$,
 $10p + 2p$, $10p + (1p \times 2)$, $(5p \times 2) + 2p$,
 $(5p \times 2) + (1p \times 2)$

Page 10

- 1 first, next, before, later, morning, evening, after,
until
- 2 tomorrow, today, yesterday

Page 11

- 1 Tuesday, Wednesday, Thursday, Friday, Saturday,
Sunday
- 2 a) weeks b) days c) months
- 3 a) January b) April c) September d) December
- 4 a) 24 b) 2015 c) October

Page 12

- 1 a) 7 o'clock b) half past 2
- 2 a) 3 o'clock b) half past 4 c) half past 9
d) 11 o'clock e) 12 o'clock f) half past 6

Page 13

- 1 times drawn correctly on the clock faces
- 2 times drawn correctly on the clock faces
- 3 a) 6 o'clock drawn correctly on the clock face
b) 6:30 drawn correctly on the clock face

Page 14

- 1 tick by all on the top row and bottom right
- 2 triangle: appropriate explanation – 3 sides and
3 corners or vertices
- 3 appropriate drawing
- 4 No: appropriate explanation shape properties –
4 equal sides & 4 equal square (or 90°) angles

Answers

Page 15

- 1 Lines drawn correctly
- 2 a) sphere b) cube c) cone d) cuboid
- 3 No: appropriate explanation shape properties – cube has 6 equivalent square faces, cuboid can have oblong faces

Page 16

- 1 a) 6 b) 3 c) 3
- 2 a) trifle b) biscuit c) appropriate: makes half a turn in an anti-clockwise direction d) trifle

Page 17

- 1 a) lorry b) ice-cream van c) car d) top left
- 2 a) on top of b) underneath c) between d) inside e) around f) near

Page 18

- 3 a) forwards b) backwards c) close d) far e) up f) down

Page 19

- 1 a) tick by second road b) 11: eleven
- 2 pattern drawn correctly
- 3 a)  b) triangle

Page 20

- 4 32 written: a) 3rd row, 3rd column b) 5th row, 1st column
- 5 a) 18 b) 23 c) 40 d) 58 e) 80
- 6 a) 55, 54, 53, 52, 50, 49, 48, 46, 45
b) 12, 14, 16, 18, 20, 24, 26, 28, 30
c) 10, 15, 30, 35, 40, 45, 50, 55, 60
d) 100, 80, 70, 60, 50, 30, 20, 0

Page 21

- 1 row 3: 2 dots not shaded, 5 shaded;
row 4: 3 dots not shaded, 4 shaded;
row 5: 4 dots not shaded, 3 shaded;
row 6: 5 dots not shaded, 2 shaded, $5 + 2 = 7$;
row 7: 6 dots not shaded, 1 shaded, $6 + 1 = 7$;
row 8: 7 dots not shaded, $7 + 0 = 7$
- 2 a) $2 + 4 = 6$, $6 - 2 = 4$, $6 - 4 = 2$
b) $5 + 4 = 9$, $4 + 5 = 9$, $9 - 5 = 4$, $9 - 4 = 5$

Page 22

- 3 a) 10 , $3 + 7 = 10$, $10 - 7 = 3$, $10 - 3 = 7$
b) 7 , $15 - 7 = 8$, $7 + 8 = 15$, $8 + 7 = 15$
- 4 a) $4 + 0 = 4$, $8 - 6 = 2$, $5 + 1 = 6$, $12 - 2 = 10$,
 $7 - 0 = 7$, $13 + 0 = 13$
b) appropriate to explain when adding & subtracting 0 to and from a number, the number remains the same
- 5) $13 - 4 = 9$
- 6) appropriate, e.g. There are 5 girls & 3 boys. How many children are there altogether.

Page 23

- 1 No: appropriate explanation that 95 is not a multiple of 10
- 2 60
- 3 6
- 4 4

Page 24

- 5 Tick by a, c and d
- 6 2 different combinations drawn, e.g. $10p + 2p$,
 $5 \times 2 + 2p$, $5p \times 2 + 1p \times 2$, $1p \times 12$, $2p \times 6$
- 7 a) 6 b) 30 c) 10

Page 25

- 1 half of each shape shaded appropriately
- 2 tick by b and c
- 3 6 additional squares shaded
- 4 4 rings with 3 chocolates in each ring

Answers

Page 26

- 5 5 in each box
- 6 No: appropriate to explain that half of the children must be girls and half of 18 is 9
- 7 a) 2 strawberries, 1 apple, 3 bananas b) quarter
c) half

Page 27

- 1 2: appropriate, to explain length of both gardens is equal, path 2 is wavy and therefore longer
- 2 a) drum circled b) doll circled
- 3 scale drawn to show the left hand pan is lower than on the first scale

Page 28

- 4 jug circled
- 5 8 o'clock drawn on 2nd clock,
8:30 drawn on 3rd clock
- 6 a) F b) T c) F d) T e) F

Page 29

- 1 cylinders: arrows from soup and rock;
spheres: arrows from chocolate and golf ball
cuboids: arrows from crate and drink carton
- 2 tick by the oblong: explanation that the rest are squares/ have equal sides & square corners

Page 30

- 3 a) & b) placed appropriately
c) appropriate, e.g. middle row, 3rd from left
d), e) & f) placed appropriately

