



BROAD HORIZON
— T U I T I O N —

11+ Tuition

Year 4

Week 44

ANSWERS

Exercise C

1. ingredient
2. concept
3. narrator
4. principle
5. dreadful
6. fascination
7. original
8. mishap
9. remembrance
10. reckless

TYPE THIRTY:

8.20 a.m.	18
2.30 p.m.	26
15	1982
Liam	1986
Dale	22
2 cms	
8	
19	
Beth	
11	
10.15 a.m.	
S	
G	
B	
C	
4.59 p.m.	
36	
16	
10	
15	

Workout 9 — pages 34-37

1. **B**

Option A is ruled out because there is no pentagon on the net. Option C is ruled out because the black semicircles and the teardrops must be on opposite sides. Option D is ruled out because the net does not have two identical faces.

2. **C**

Option A is ruled out because the star and the white rectangle must be on opposite sides. Option B is ruled out because there is no black star on the net. Option D is ruled out because the grey face and the oval with the two circles must be on opposite sides.

3. **D**

Option A is ruled out because the spiral and the white pentagon must be on opposite sides. Option B is ruled out because there is no black star on the net. Option C is ruled out because the white and grey trapeziums have the wrong rotation.

4. **D**

The shape of the bug's body becomes the shape of its eyes, and the shape of the bug's eyes becomes the shape of its body.

5. **A**

The bug's body becomes shorter and its legs change from straight lines to lines which curve downwards.

6. **B**

The shapes that make up the bug's body move down one place and the bottom shape moves to the top. The striped shapes become white and the white shapes become grey.

7. **C**

In each series square, the figure rotates 90 degrees clockwise. The shading of the teardrop alternates between black and white.

8. **A**

In each series square, moving in an anticlockwise direction, the next shape increases in size. The shape that increased in size in the previous series square returns to normal size.

9. **D**

The squares in this series are in two pairs. In each pair, the dashed lines become solid lines. Black shading and hatching becomes white, and white shading and hatching becomes black.

10. **B**

In each series square, the figure rotates 90 degrees clockwise and one more heart changes to a black square.

11. **B**

In each series square, one more semicircle is added in an anticlockwise direction around the pentagon. The new semicircle in each series square is shaded white. The semicircles from the previous series square are shaded black. The shading of the pentagon alternates between grey and hatched.

12. **4**

An obtuse angle is an angle between 90° and 180°. There are four angles on the map between 90° and 180°.

13. **108 600 litres**

You can use written addition to work out $40\,500 + 68\,100$:

$$\begin{array}{r} 40500 \\ + 68100 \\ \hline 108600 \end{array}$$

14. **7 °C**

The thermometer is showing a temperature of -3 °C. $-3\text{ °C} + 10\text{ °C} = 7\text{ °C}$.

15. **D**

Follow the instructions for changing °C into °F using 5: $5 \times 9 = 45$, $45 \div 5 = 9$, $9 + 32 = 41\text{ °F}$.

16. **B**

$x = 2$, so $2x = 2 \times x = 4$. $y = 4$, so $3y = 3 \times y = 12$. So $2x + 3y = 4 + 12 = 16$.

Workout 10 — pages 38-40

1. **0.594 m**

There are 1000 mm in a metre, so move the decimal point in 594 three places to the left to get 0.594 m.

2. **843**

You can use short division to work out $5901 \div 7$:

$$\begin{array}{r} 843 \\ 7 \overline{)5901} \end{array}$$

3. **B**

In options A and E the shape has been translated, not reflected. In options C and D the shape has been reflected but not in the dotted line. Option B has been reflected in the dotted line as the new shape is the same distance from the line as the original shape.

4. **D**

Options A, B, C and E are all the same as $\frac{1}{3}$, which you can see by covering up different numbers of columns on the diagram. Option D is equivalent to $\frac{1}{4}$.

5. **B**

Option A is $1^2 + 1 = 2$, so is incorrect. Option B is $2^2 + 2 = 6$, so is correct. Option C is $3^2 + 3 = 12$, option D is $4^2 + 4 = 20$, and option E is $5^2 + 5 = 30$, so they're all incorrect.

6. **regret**

The other three mean 'strong dislike'.

7. **uncertainty**

The other three mean 'fear'.

8. **lumber**

The other three mean 'to talk'.

9. **scoff**

The other three mean 'to ignore'.

10. **afterwards**

The other three are conjunctions.

11. **lax**

'tight' means 'secured' whereas 'lax' means 'loose'.

12. **displease**

'delight' means 'to please' whereas 'displease' means 'to upset'.

13. **rise**

'decline' means 'a decrease' whereas 'rise' means 'an increase'.

14. skinny

'plump' means 'fat' whereas 'skinny' means 'thin'.

15. clumsiness

'grace' can mean 'elegance' whereas 'clumsiness' means 'awkwardness'.

16. repair

'damage' means 'to break something' whereas 'repair' means 'to fix something'.

17. trifling

'important' means 'crucial' whereas 'trifling' means 'unimportant'.

18. impulse

Both words mean 'a strong desire'.

19. sequence

Both words mean 'a chain of things'.

20. persuade

Both words mean 'to convince'.

21. serious

Both words mean 'unsmiling'.

22. level

Both words mean 'a floor of a building'.

23. unusual

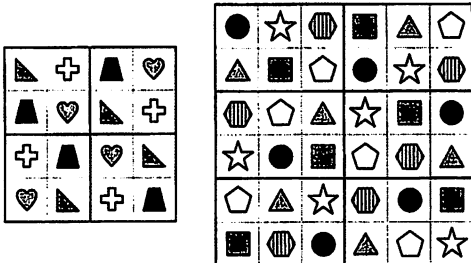
Both words mean 'odd'.

24. always

Both words mean 'without change'.

Puzzles 4 — page 41

Let's Shape Things Up...



Compound Creatures

The six compound words are: **bulldog**, **earwig**, **earthworm**, **hedgehog**, **sheepdog**, **reindeer**

The word that doesn't match any other words is **bird**.

Workout 11 — pages 42-45

1. **host** — 'a whole **host** of indigenous species'
2. **known** — 'animals **known** as marsupials'
3. **pouches** — '**pouches** on their bellies.'
4. **beloved** — 'all of which are **beloved** by tourists.'
5. **attention** — 'have gained worldwide **attention**'
6. **tendency** — 'their **tendency** to approach humans'
7. **vulnerable** — 'a **vulnerable** and rare species'
8. **illegal** — 'it is **illegal** for people to'

9. **encounter** — 'that depicts their **encounter**'

10. **colony** — 'its resident **quokka colony**'

11. **D**

The bottom block in D is at the front of the figure. The other two blocks in D are arranged behind it.

12. **B**

The bottom block in B is at the back of the figure. The other two blocks in B are arranged below and in front of it.

13. **C**

The middle block in C is at the back of the figure on the right. The top block in C is in front of it. The bottom block in C is at the front of the figure.

14. **C**

Going in a clockwise direction from the top hexagon, another section of the hexagon is shaded. The shading of the new section alternates between grey and black.

15. **A**

The figures on opposite sides of the hexagonal grid are identical.

16. **A**

The whole hexagonal grid has a horizontal line of symmetry.

17. **B**

Going in a clockwise direction from the top hexagon, the arrow rotates 90 degrees clockwise and the triangle is horizontally reflected.

18. **B**

There are four blocks visible from above, which rules out options A and D. There are two blocks visible at the back, which rules out option C.

19. **C**

There are three blocks visible from above, which rules out options B and D. There are two blocks visible at the front, which rules out option A.

20. **A**

There are five blocks visible from above, which rules out options B and C. There is only one block visible on the right, which rules out option D.

21. **D**

There are five blocks visible from above, which rules out option C. There are three blocks visible at the front, which rules out options A and B.

Workout 12 — pages 46-49

1. **C**

The contents of the bottom half of the shape are reflected upwards over the horizontal line.

2. **A**

The smaller shapes move inside the larger shape. Their shading changes from white to black.

3. **C**

The figure rotates 90 degrees clockwise and the arrowheads change.

4. **A**

Shape A has been rotated 90 degrees away from you, top-to-bottom.

5. **F**

Shape F has been rotated 90 degrees right-to-left.

6. **D**

Shape D has been rotated 180 degrees in the plane of the page.

7. **B**

Shape B has been rotated 90 degrees clockwise in the plane of the page. It has then been rotated 90 degrees right-to-left.

8. **A**

There are 4 classical groups, 6 jazz groups, 11 pop groups, 7 rock groups and 6 other groups. So option A is correct.

9. **34**

Read off the heights of each line and add up:
 $4 + 6 + 11 + 7 + 6 = 34$ groups.

10. **C**

Option A is 25, which is 5^2 . Option B is 27, which is 3^3 . Option D is 64, which is 4^3 or 8^2 . Option E is 100, which is 10^2 . So option C is correct.

11. **55°**

The angles in a rectangle are all 90° . $90 + 35 = 125^\circ$. The angles on a straight line add up to 180° , so the missing angle is $180 - 125 = 55^\circ$.

12. **12**

To find $\frac{2}{5}$, divide 30 by 5 and multiply by 2:
 $30 \div 5 = 6$, so $\frac{2}{5}$ of 30 is $6 \times 2 = 12$ biscuits.

13. **48 cm³**

The volume of a cuboid is length \times width \times height, so the volume of the cuboid is $6 \times 4 \times 2$.
 $6 \times 4 = 24$, $24 \times 2 = 48$ cm³.

14. **B**

Try each option in turn to see what sequence you get:
in option A you get 3, 5, 7, 9...
in option B you get 2, 5, 10, 17...
in option C you get 4, 6, 8, 10...
in option D you get 4, 9, 16, 25...
in option E you get 2, 6, 12, 20...
So option B is correct.

Workout 13 — pages 50-53

1. **A**

"persistent" can mean 'continuing to occur in a steady way'.

2. **C**

'recently' means 'not very long ago'. Line 3 states that the clock has been in Evan's family for "three hundred years", so it can't have been bought recently.

3. **B**

'exceptional' means 'unusual'. Lines 4-5 state that "There was nothing out of the ordinary about the clock face", which shows that there is nothing unusual about it.

4. **D**

Lines 10-11 state that the case "twinkled" when it "caught the rising light of dawn". This suggests that the case reflects the light and sparkles slightly.

5. **B**

Lines 14-15 state that the door is "overshadowed by the surrounding extravagance", which means that it doesn't stand out as much as the decorations around it.

6. **C**

Line 16 states that "The timepiece soothed Evan." "soothed" can mean 'calmed', which suggests that the clock makes Evan feel relaxed.

7. **D**

Line 21 states that Evan "half ran, half fell across the room". This shows that he rushes to look at the clock and nearly loses his balance.

8. **90 minutes**

There are 60 minutes in an hour, and 30 minutes in half an hour. So the film is $60 + 30 = 90$ minutes long.

9. **2, 3, 6, and 9**

$18 \div 2 = 9$, so 2 and 9 are factors of 18.
 $18 \div 3 = 6$, so 3 and 6 are factors of 18.

10. **9**

There were 30 people at the start of 2012. If 4 people left in 2012 then that gives $30 - 4 = 26$. But there were 35 people at the start of 2013, so the number of people who joined the group must be $35 - 26 = 9$.

11. **D**

There were 50 people at the start of 2014. 23 were boys so $50 - 23 = 27$ were girls. So as a fraction, $\frac{27}{50}$ were girls. Multiply top and bottom by 2 to give $\frac{54}{100}$ — this is equivalent to 54%.

12. **900 cm**

The total length of the tops of the three 'steps' must be 250 cm, and the total length of the sides of the three 'steps' must be 200 cm. So the perimeter is $250 + 200 = 450$ cm.

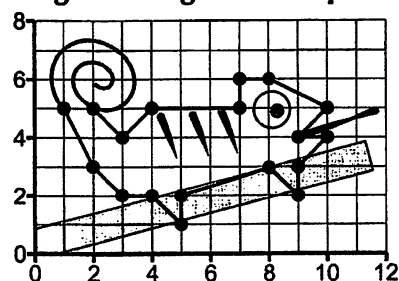
Puzzles 5 — page 54

Chaotic Clues

The words are: QUIET, SERENE, TRANQUIL, PEACEFUL, PLACID

The pot of gold is buried under the PEAR TREE.

Magnus's Magical Mishap



Workout 14 — pages 55-58

1. **C**

Going in a clockwise direction, the figure rotates 60 degrees clockwise.

2. A

Going in an anticlockwise direction from the bottom hexagon, one more dashed raindrop becomes grey with a solid outline.

3. C

Each hexagon is reflected over the line joining it to the next hexagon. The shading of the stars alternates between black and grey.

4. C

Going in a clockwise direction, the circle and triangle alternate between the top and the bottom of the hexagon. The shadings of the circle and the triangle change in the order: black, white, grey.

5. B

Option A is ruled out because the net does not have a white heart. Option C is ruled out because the cross and the square with the diamond must be on opposite sides. Option D is ruled out because the net does not have a white star.

6. B

Option A is ruled out because the net does not have a black hexagon. Option C is ruled out because the trapezium and the line with the two squares must be on opposite sides. Option D is ruled out because the net does not have two identical faces.

7. A

Option B is ruled out because the rectangles and the grey shape must be on opposite sides. Option C is ruled out because there is no black hexagon on the net. Option D is ruled out because the white octagon and the black teardrop must be on opposite sides.

8. D

Option A is ruled out because the arrows and the teardrops must be on opposite sides. Option B is ruled out because there are no black teardrops on the net. Option C is ruled out because the black and white shape and the black pentagon must be on opposite sides.

9. C

Option A is ruled out because there are no grey triangles that are joined by their edges on the net. Option B is ruled out because the grey triangles and the cylinder must be on opposite sides. Option D is ruled out because the black hexagon and the star must be on opposite sides.

10. B

Option A is ruled out because the crown and the dotted shape must be on opposite sides. Option C is ruled out because the black squares have been rotated. Option D is ruled out because the white part-circles and the grey and white triangles must be on opposite sides.

11. D

Option A is ruled out because the circle with the dashed lines and the circle with the heart must be on opposite sides. Option B is ruled out because the grey arch has been rotated. Option C is ruled out because the hexagon and the grey arch must be on opposite sides.

12. fry

The words can be rearranged into the sentence 'Bill was going to have boiled eggs for breakfast.'

13. airport

The words can be rearranged into the sentence 'I was worried that we would miss our early flight.'

14. jogging

The words can be rearranged into the sentence 'Sylvie went on a long walk every day.'

15. shivered

The words can be rearranged into the sentence 'The atmosphere in her house had grown even colder.'

16. relax

The words can be rearranged into the sentence 'There were only two more days of the summer holidays.'

17. tidy

The words can be rearranged into the sentence 'Dean spent all afternoon cleaning up the mess.'

18. award

'award' can mean 'a reward' or 'to give a reward'.

19. comfort

'comfort' can mean 'to make someone feel better' or 'a non-essential item'.

20. front

'front' can mean 'front of a building' or 'a false appearance'.

21. service

'service' can mean 'a religious ceremony' or 'a kind deed'.

22. trouble

'trouble' can mean 'to cause concern' or 'an inconvenience'.

23. cheer

'cheer' can mean 'happiness' or 'to express approval'.

Workout 15 — pages 59-61

1. C

The figure is rotated 180 degrees. Options A and D are the wrong shape. Option B is a rotated reflection.

2. A

The figure is rotated 135 degrees anticlockwise. In option B, the position of the arrow is wrong. In option C, the shading of the circle is wrong. Option D is a rotated reflection.

3. C

The figure is rotated 45 degrees anticlockwise. In option A, the shading of the squares is wrong. Option B is a reflection. In option D, the grey shape is wrong.

4. D

The figure is rotated 135 degrees clockwise. In option A, the star and the arrow have swapped positions. Option B is a reflection. In option C, the lines are attached to the wrong part of the semicircle.

5. B

The figure is rotated 90 degrees clockwise. In option A, the pentagon has the wrong rotation. Option C is a rotated reflection. In option D, the pentagon is in the wrong position.

6. D

In all figures, a line must run through two shapes. The outline of both shapes on one side of the line must be dashed and the outline of both shapes on the other side of the line must be solid.

7. A

All figures must contain two unshaded shapes and an exact copy of those shapes which is shaded black.

8. D

In all figures, there must be a large white shape with a smaller, hatched shape outside it. There must be a copy of the smaller shape inside the large shape, but with the hatching removed.

9. D

In all figures, the arrow must point to the longest side of the shape.

10. C

In all figures, there must be three shapes on a curved line which has an arrowhead at one end. The shading of the shapes from the arrowhead must go in the order: grey, black, white.

11. C

In all figures, there must be three black shapes and three grey shapes. The grey shapes must be identical and the black shapes must all be different.

12. E

Go 3 along the x -axis and 5 up parallel to the y -axis. You get to (3, 5), which is point E.

13. C

The shape is a parallelogram — it has two pairs of parallel sides but it does not have right angles.

14. E

$\frac{72}{10}$ is the same as 7.2, $1\frac{3}{4}$ is the same as 1.75, 6.7% is the same as 0.067, 0.77% is the same as 0.0077, and $\frac{682}{1000}$ is the same as 0.682. The only one of these decimals that's between 0.6 and 0.8 is 0.682, so option E is correct.

15. 0.882

All the fractions have a denominator of 1000, so you can do the calculation by looking at the numerators first.

$811 - 373 = 438$, and $438 + 444 = 882$. Putting this over 1000 gives $\frac{882}{1000}$ — this is equivalent to 0.882.

Shuffled Sentences Page 35

Test 11

1. the children made sandcastles on the beach
pebble
2. it was a warm and sunny day
night
3. they had cornflakes for breakfast
meal
4. she wore a hat because it was cold
hair
5. vegetarians never eat meat
sugar
6. caterpillars turn into moths or butterflies
ants
7. spiders spin webs from silk
flies
8. building sites can be very dangerous
control
9. the hotel room was very comfortable
food
10. the barber cut the man's hair
paper

Test 12

1. penguins live near the south pole
east
2. the wasps were attracted to the jam
fall
3. the lawn mower would not start
grass
4. bees collect nectar from flowers
grass
5. the telephone woke her up
bed
6. he wrote the letter with a fountain pen
paper
7. he cut the wood with a saw
dust
8. he didn't know how to use a computer
now
9. he hid the chocolate in the cupboard
door
10. the car crashed because it was going too fast
stopped

Vocabulary 10

Exercise A

1. legitimate
2. persist
3. intermediate
4. siren
5. desire
6. explosive
7. remarkably
8. moat
9. qualification
10. pauper

Exercise B

1. siren
2. intermediate
3. qualification
4. remarkably
5. moat
6. explosive
7. desire
8. legitimate
9. persist
10. pauper