



**BROAD HORIZON**  
— T U I T I O N —

# **11+ Tuition**

**Year 4**

**Week 35**

**ANSWERS**

1. Reliant

2. Satisfied

3. Embarrass

4. Ruffle

5. Loneliness

6. Interview

7. Repetition

8. Wisp

9. Insist

10. Premier

# Percentage increase

Name \_\_\_\_\_

ANS

Question	Number	10%	20%	5%
1.	240	24	48	12
2.	520	52	104	26
3.	2600	260	520	130
4.	780	78	156	39
5.	60	6	12	3
6.	90	9	18	4.5
7.	25	2.5	5	1.25

1. Find 240 increased by 10%

$$10\% \text{ of } 240 = \underline{24}$$

$$240 + \underline{24} = \underline{264}$$

2. Find 780 increased by 10%

$$10\% \text{ of } 780 = \underline{78}$$

$$780 + \underline{78} = \underline{858}$$

3. Find 90 increased by 10%

$$10\% \text{ of } 90 = \underline{9}$$

$$90 + \underline{9} = \underline{99}$$

4. Find 520 increased by 10%

$$10\% \text{ of } 520 = \underline{52}$$

$$520 + \underline{52} = \underline{572}$$

5. Find 240 increased by 20%

$$20\% \text{ of } 240 = \underline{48}$$

$$240 + \underline{48} = \underline{288}$$

6. Find 60 increased by 20%

$$20\% \text{ of } 60 = \underline{12}$$

$$\overset{60}{240} + \underline{12} = \underline{72}$$

7. Find 2600 increased by 5%

$$5\% \text{ of } 2600 = \underline{130}$$

$$2600 + \underline{130} = \underline{2730}$$

8. Find 25 increased by 5%

$$5\% \text{ of } 25 = \underline{1.25}$$

$$25 + \underline{1.25} = \underline{26.25}$$

Now try these without the help from your table:

9. Find 220 increased by 20%

$$10\% \text{ of } 220 = \underline{22}$$

$$20\% \text{ of } 220 = \underline{44}$$

$$220 + \underline{44} = \underline{264}$$

10. Find 840 increased by 20%

$$10\% \text{ of } 840 = \underline{84}$$

$$20\% \text{ of } 840 = \underline{168}$$

$$840 + \underline{168} = \underline{1008}$$

11. Find 65 increased by 20%

$$10\% \text{ of } 65 = \underline{6.5}$$

$$20\% \text{ of } 65 = \underline{13}$$

$$65 + \underline{13} = \underline{78}$$

12. Find 130 increased by 20%

$$20\% \text{ of } 130 = \underline{26}$$

$$130 + \underline{26} = \underline{156}$$

13. Find 360 increased by 5%

$$10\% \text{ of } 360 = \underline{36}$$

$$5\% \text{ of } 360 = \underline{18}$$

$$360 + \underline{18} = \underline{378}$$

Try some other percentages:

14. Find 820 increased by 30%

$$10\% \text{ of } 820 = \underline{82}$$

$$30\% \text{ of } 820 = \underline{246}$$

$$820 + \underline{246} = \underline{1066}$$

15. Find 210 increased by 40%

$$10\% \text{ of } 210 = \underline{21}$$

$$40\% \text{ of } 210 = \underline{84}$$

$$210 + \underline{84} = \underline{294}$$

16. Find 660 increased by 15%

$$10\% \text{ of } 660 = \underline{66}$$

$$5\% \text{ of } 660 = \underline{33}$$

$$660 + \underline{66} + \underline{33} = \underline{759}$$

17. Find 180 increased by 3%

$$1\% \text{ of } 180 = \underline{1.8}$$

$$3\% \text{ of } 180 = \underline{5.4}$$

$$180 + \underline{5.4} = \underline{185.4}$$

18. Find 4000 increased by 6%

$$6\% \text{ of } 4000 = \underline{240}$$

$$4000 + \underline{240} = \underline{4240}$$

# Percentage increase $\times 2$

Name \_\_\_\_\_

ANS

Question	Number	10%	20%	5%
1.	380	38	76	19
2.	160	16	32	8
3.	4200	420	840	210
4.	670	67	134	33.5
5.	70	7	14	3.5
6.	40	4	8	2
7.	15	1.5	3	0.75

1. Find 380 increased by 10%

$$10\% \text{ of } 380 = \underline{38}$$

$$380 + \underline{38} = \underline{418}$$

2. Find 160 increased by 10%

$$10\% \text{ of } 160 = \underline{16}$$

$$160 + \underline{16} = \underline{176}$$

3. Find 70 increased by 10%

$$10\% \text{ of } 70 = \underline{7}$$

$$70 + \underline{7} = \underline{77}$$

4. Find 670 increased by 10%

$$10\% \text{ of } 670 = \underline{67}$$

$$670 + \underline{67} = \underline{737}$$

5. Find 160 increased by 20%

$$20\% \text{ of } 160 = \underline{32}$$

$$160 + \underline{32} = \underline{192}$$

6. Find 40 increased by 20%

$$20\% \text{ of } 40 = \underline{8}$$

$$40 + \underline{8} = \underline{48}$$

7. Find 4200 increased by 5%

$$5\% \text{ of } 4200 = \underline{210}$$

$$4200 + \underline{210} = \underline{4410}$$

8. Find 15 increased by 5%

$$5\% \text{ of } 15 = \underline{0.75}$$

$$15 + \underline{0.75} = \underline{15.75}$$

Now try these without the help from your table:

9. Find 380 increased by 20%

$$10\% \text{ of } 380 = \underline{38}$$

$$20\% \text{ of } 380 = \underline{76}$$

$$380 + \underline{76} = \underline{456}$$

10. Find 920 increased by 20%

$$10\% \text{ of } 920 = \underline{92}$$

$$20\% \text{ of } 920 = \underline{184}$$

$$920 + \underline{184} = \underline{1104}$$

11. Find 85 increased by 20%

$$10\% \text{ of } 85 = \underline{8.5}$$

$$20\% \text{ of } 85 = \underline{17}$$

$$85 + \underline{17} = \underline{102}$$

12. Find 470 increased by 20%

$$20\% \text{ of } 470 = \underline{94}$$

$$470 + \underline{94} = \underline{564}$$

13. Find 720 increased by 5%

$$10\% \text{ of } 720 = \underline{72}$$

$$5\% \text{ of } 720 = \underline{36}$$

$$720 + \underline{36} = \underline{756}$$

Try some other percentages:

14. Find 580 increased by 30%

$$10\% \text{ of } 580 = \underline{58}$$

$$30\% \text{ of } 580 = \underline{174}$$

$$580 + \underline{174} = \underline{754}$$

15. Find 170 increased by 40%

$$10\% \text{ of } 170 = \underline{17}$$

$$40\% \text{ of } 170 = \underline{68}$$

$$170 + \underline{68} = \underline{238}$$

16. Find 880 increased by 15%

$$10\% \text{ of } 880 = \underline{88}$$

$$5\% \text{ of } 880 = \underline{44}$$

$$880 + \underline{88} + \underline{44} = \underline{1012}$$

17. Find 120 increased by 4%

$$1\% \text{ of } 120 = \underline{1.2}$$

$$4\% \text{ of } 120 = \underline{4.8}$$

$$120 + \underline{4.8} = \underline{124.8}$$

18. Find 7000 increased by 9%

$$9\% \text{ of } 7000 = \underline{630}$$

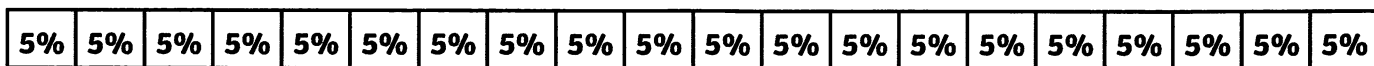
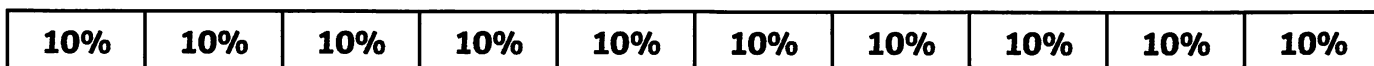
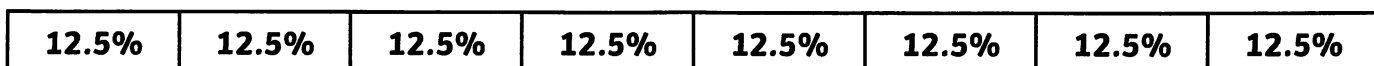
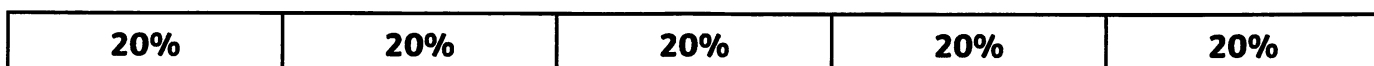
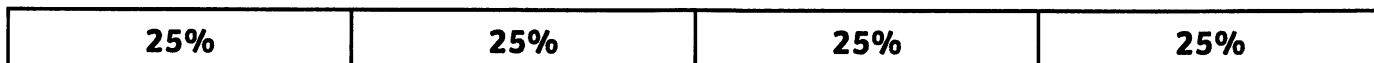
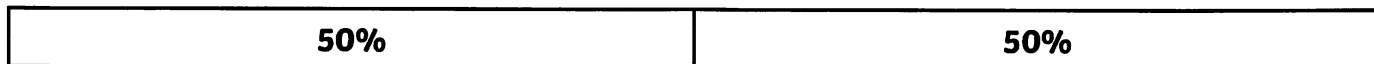
$$7000 + \underline{630} = \underline{7630}$$

# Percentage Increase and Decrease Bar Modelling Answers

Aim: I can use bar modelling to increase and decrease by percentages.

## Section 1

Here are some bars divided into equal parts. Complete the percentage in each part of the bar. The first one is done for you:



## Section 2

In the following bars show how you can use a combination of the above to make the following percentages. The first one is done for you:

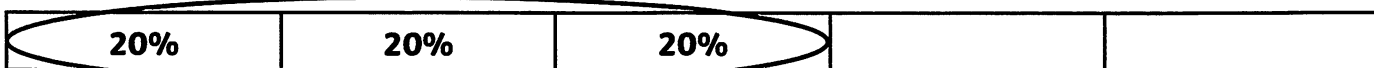
70%



or



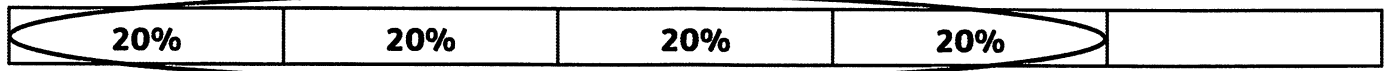
60%



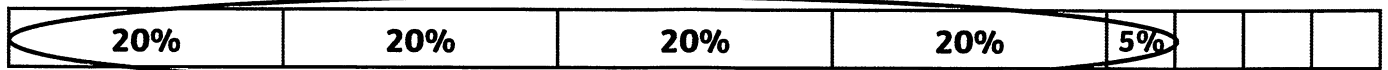
30%



80%



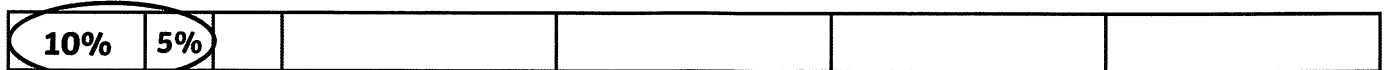
85%



45%



15%

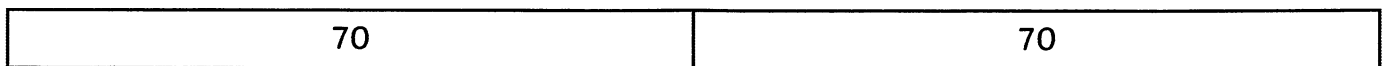
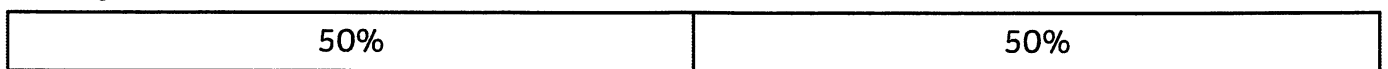


95%



### Section 3

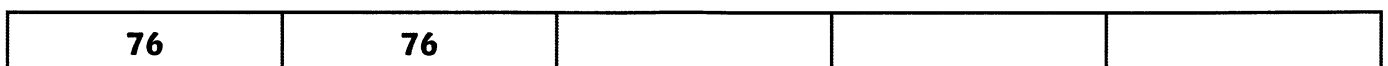
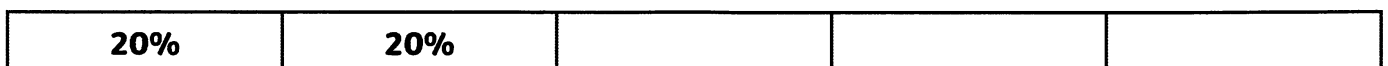
50% of 140 = 70



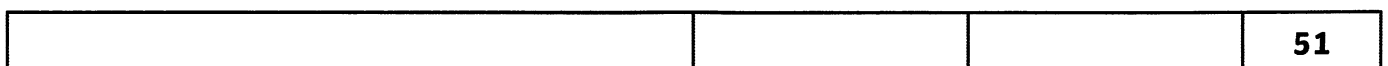
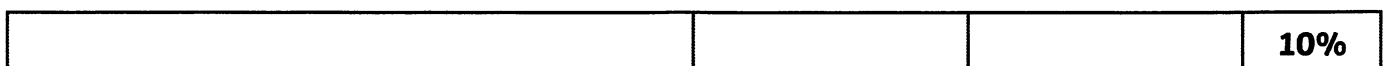
25% of 260 = 65 - find 25% by halving and halving again (130, 65)



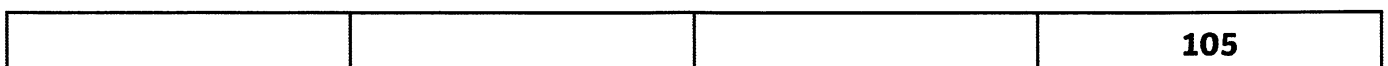
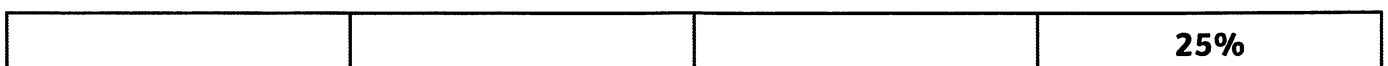
40% of 380 = 152 - find 20% by dividing by 10 and doubling (38, 76)



90% of 510 = 459 - find 90% by subtracting 10%, adding 50% + 20% + 20% or 10% × 9



75% of 420 = 315 - find 75% by subtracting 25%, adding 50% + 25% or 25% × 3



60% of 160 = **96** - find 60% by 20% × 3 or 10% × 6

20%	20%	20%		
32	32	32		

80% of 80 = **64** - find 80% by 20% × 4 or 10% × 8 or subtracting 20%

				20%
				16

70% of 740 = **518** - find 70% by adding 50% and 20% or 50% + 10% + 10%

50%	10%	10%			
370	74	74			

30% of 620 = **186** - find 30% by 10% × 3

10%	10%	10%							
62	62	62							

#### Section 4

To decrease a number by 10%, find 10% and subtract this from the number.

Decrease 80 by 10%.

									10%
									8

10% of 80 = 8    80 - 8 = 72    80 decreased by 10% = 72

Decrease the following numbers by 10%.

140

									14
--	--	--	--	--	--	--	--	--	----

10% of 140 = 14    140 - 14 = 126    140 decreased by 10% = 126

60

									6
--	--	--	--	--	--	--	--	--	---

10% of 60 = 6    60 - 6 = 54    60 decreased by 10% = 54

150

									15
--	--	--	--	--	--	--	--	--	----

**10% of 150 = 15**

**150 - 15 = 135**

**150 decreased by 10% = 135**

230

									23
--	--	--	--	--	--	--	--	--	----

**10% of 230 = 23**

**230 - 23 = 207**

**230 decreased by 10% = 207**

380

									38
--	--	--	--	--	--	--	--	--	----

**10% of 380 = 38**

**380 - 38 = 342**

**380 decreased by 10% = 342**

760

									76
--	--	--	--	--	--	--	--	--	----

**10% of 760 = 76**

**760 - 76 = 684**

**760 decreased by 10% = 684**

980

									98
--	--	--	--	--	--	--	--	--	----

**10% of 980 = 98**

**980 - 98 = 882**

**980 decreased by 10% = 882**

1020

									102
--	--	--	--	--	--	--	--	--	-----

**10% of 1020 = 102**

**1020 - 102 = 918**

**1020 decreased by 10% = 918**

### Section 5

To increase a number by 10%, find 10% and add this to the number.

Increase 80 by 10%

									100%	10%
--	--	--	--	--	--	--	--	--	------	-----

									80	8
--	--	--	--	--	--	--	--	--	----	---

**10% of 80 = 8.**

**80 + 8 = 88**

**80 increased by 10% = 88**

Increase the following numbers by 10%.

170

<b>170</b>	<b>17</b>
------------	-----------

**10% of 170 = 17      170 + 17 = 187      170 increased by 10% = 187**

280

<b>280</b>	<b>28</b>
------------	-----------

**10% of 280 = 28      280 + 28 = 308      280 increased by 10% = 308**

450

<b>450</b>	<b>45</b>
------------	-----------

**10% of 450 = 45      450 + 45 = 495      450 increased by 10% = 495**

50

<b>50</b>	<b>5</b>
-----------	----------

**10% of 50 = 5      50 + 5 = 55      50 increased by 10% = 55**

490

<b>490</b>	<b>49</b>
------------	-----------

**10% of 490 = 49      490 + 49 = 539      490 increased by 10% = 539**

610

<b>610</b>	<b>61</b>
------------	-----------

**10% of 610 = 61      610 + 61 = 671      610 increased by 10% = 671**

770

<b>770</b>	<b>77</b>
------------	-----------

**10% of 770 = 77      770 + 77 = 847      770 increased by 10% = 847**

920

<b>920</b>	<b>92</b>
------------	-----------

**10% of 920 = 92      920 + 92 = 1012      920 increased by 10% = 1012**

## Section 6

1. A bag of popcorn costs £1.20. A shop discounts bags of popcorn by 10%.  
What is the new cost?

--	--	--	--	--	--	--	--	--	--

**£1.08**

2. An athlete's best time for running 400m is 50 seconds. After a year's training the athlete cuts their time by 10%. What is their new best time?

--	--	--	--	--	--	--	--	--	--

**45 seconds**

3. A grocer normally buys 670kg of potatoes each week. One week he decides to buy 10% less potatoes. What mass of potatoes does he buy?

--	--	--	--	--	--	--	--	--	--

**603kg**

4. A school raises £420 for their chosen charity. In the previous year, the school raised 10% less. How much did the school raise the previous year?

--	--	--	--	--	--	--	--	--	--

**£378**

5. A shop has to increase the cost of a set of books by 10%.  
The original price was £25. What is the new price?

--	--	--	--	--	--	--	--	--	--

**£27.50**

6. A football team has an average attendance of 5680 in one season. The following season their average attendance increases by 10%. What is the new average attendance?

--	--	--	--	--	--	--	--	--	--

**6248**

7. A runner is training for a marathon. One week she runs 44 miles over the whole week. In each of the next two weeks, she increases the distance she runs by 10%. How far will she have run in the second week? Round the answer to one decimal place.

--	--	--	--	--	--	--	--	--	--

--	--	--	--	--	--	--	--	--	--

**53.24 miles rounded to 53.2 miles**

## Test 17 — pages 72-75

### 1. B

Line 2 states that Edith has lived through leap years; these years contain 366 days rather than 365, and account for the extra 25 days Edith has lived.

### 2. C

Lines 3-4 state that Edith hopes her memoirs will be enjoyed by future generations of her family, who will read about her life.

### 3. C

Edith was born in 1915, and married 19 years later (1934) "during the decade that the Second World War began". Therefore, the Second World War began in the 1930s.

### 4. C

Lines 8-9 state that Edith became a receptionist in 1936. As she was married in 1934, Edith was married when she became a receptionist.

### 5. D

Line 9 states that Edith became a receptionist in 1936, but gave it up in the 1940s. However, the text does not specify when during this decade Edith gave it up. Therefore, it is unclear from the text how long her career as a receptionist lasted.

### 6. A

Lines 2-3 state that each day of Edith's life has made her who she is today.

### 7. B

Line 6 states that Edith was married when she was 19. Since Edith is 99 at the time of writing, she has been married for 80 years.

### 8. D

Lines 14-15 state that Edith has "five grandchildren" as well as "two great-grandchildren".

### 9. C

Line 1 states that Edith turns 100 years old next week; therefore she is not 100 years old at the time of writing.

### 10. A

Edith turns 100 on the 23rd October; therefore the month before was September. Line 18 states that Matthew's birthday was last month, so his birthday must be in September.

### 11. D

Lines 22-23 state that Edith believes that failure to try (to not attempt something) is worse than failure itself.

### 12. B

Lines 21-22 state that Edith hopes her family have rich lives that are full of experience.



### Test 9

---

- Q1 A
- Q2 B
- Q3 C
- Q4 C
- Q5 B
- Q6 D
- Q7 C
- Q8 A

### Test 10

---

- Q1 C  
The largest faces of the shape are white, which rules out A and D. The smaller faces of the shape are not white, which rules out B.
- Q2 D  
The curved part of the shape is white, which rules out B and C. Neither circular face is dark grey, which rules out A.
- Q3 A  
The smaller rectangular faces of the shape are white, which rules out C and D. The larger faces are light grey, which rules out B.
- Q4 C  
The rectangular faces of the shape are all white, which rules out A, B and D.
- Q5 A  
The shape has no dark grey triangular sides, which rules out B and C. The shape only has 1 light grey triangular side, which rules out D.
- Q6 D  
The shape has 1 dark grey face, which rules out A. The shape has no light grey sides, which rules out B and C.

- Q7 A  
The largest faces of the shape are both white, which rules out B, C and D.
- Q8 C  
The triangular faces of the shape are dark grey, which rules out A and B. None of the rectangular faces of the shape is dark grey, which rules out D.
- Q9 A  
The rectangular faces of the shape are all white, which rules out B, C and D.
- Q10 D  
The shape does not have 2 grey trapezium-shaped sides next to each other, which rules out A and B. The shape does not have 2 white trapezium-shaped sides next to each other, which rules out C.

### Test 11

---

- Q1 A
- Q2 C
- Q3 B
- Q4 C
- Q5 D
- Q6 A
- Q7 B
- Q8 C
- Q9 D
- Q10 A

### Test 12

---

- Q1 C
- Q2 D
- Q3 C
- Q4 B
- Q5 B
- Q6 B
- Q7 C
- Q8 D
- Q9 C
- Q10 C

# TYPE TWENTY-SIX:

22

24 48

12 8

19 55

36 81

35 38

20 50

200 25

41 34

567 678

16 46

120 3600

1200

512

22 21

65 74

185

37.5

19 17

8

## Shuffled Sentences Page 38

### Test 5

1. his jokes were hilarious  
was
2. working all night they finished in time  
stars
3. the boys built sandcastles on the beach  
in
4. how long is the flight to Spain  
walk
5. he was angry after the boys fought  
tomorrow
6. how much is the dress  
price
7. the car tooted its horn as it passed  
it's
8. the lonely puppy howled in the night  
happy
9. the train stopped at the station  
rail
10. the weather deteriorated quickly  
was

## Vocabulary 6

### Exercise A

1. productive
2. revolve
3. pact
4. classify
5. horrific
6. unique
7. radiance
8. intensive
9. muddle
10. strain

### Exercise B

1. revolve
2. productive
3. unique
4. muddle
5. radiance
6. classify
7. horrific
8. intensive
9. strain
10. pact

## Cloze Wordbank Test 33

---

- Q1 H**  
*separating*
- Q2 A**  
*suspended*
- Q3 D**  
*steps*
- Q4 F**  
*avoiding*
- Q5 I**  
*obstructions*
- Q6 C**  
*passengers*
- Q7 B**  
*mainland*
- Q8 J**  
*turns*
- Q9 E**  
*exposes*
- Q10 G**  
*causeway*

## Cloze Wordbank Test 34

---

- Q1 H**  
*loch*
- Q2 D**  
*lake*
- Q3 F**  
*deepest*
- Q4 G**  
*attracts*
- Q5 E**  
*appreciating*
- Q6 J**  
*scenery*
- Q7 B**  
*Monster*
- Q8 C**  
*reputedly*
- Q9 I**  
*conclusive*

#### PAGES 48-53 — ASSESSMENT TEST 4

1. C — In the passage it says "The afternoon sun was getting low", so it must be late afternoon.
2. A — Mole is "restless" — it is Rat who is "in a dreamy mood".
3. C — In the passage Rat says "Not yet, my young friend, wait till you've had a few lessons."
4. B — Mole was jealous because Rat was "sculling so strongly and so easily along".
5. A — Rat "fell backwards off his seat with his legs in the air", but he remains in the boat.
6. D — Mole doesn't hit Rat with the skulls.
7. A — 'Reckless' means 'impulsive' or 'not thinking of the consequences'. This accurately describes Mole's behaviour in these lines.
8. C — To feel "at home" somewhere means 'to feel comfortable'.
9. B — 'victorious' is closest in meaning to "triumphant". Both words mean 'having won something'.
10. D — 'panicked' is closest in meaning to "alarmed". Both words mean 'feeling afraid'.
11. A — 'Lying down flat' is closest in meaning to "prostrate".
12. B — This phrase means that Mole wanted to prove that he could row just as well as Rat.
13. garage — The other three are all rooms in a house.
14. plate — The other three are containers for drinking from.
15. sow — The other three are the young of animals.
16. cloud — The other three are types of precipitation.
17. lady — The other three are names for children.
18. peer — The other three are facial expressions.
19. begin — Both words mean 'to commence'.
20. absent — Both words mean 'not present'.
21. decline — Both words mean 'to lessen'.
22. stingy — Both words mean 'unwilling to spend money'.
23. just — Both words mean 'unbiased'.
24. neat — Both words mean 'ordered'.
25. minute — Both words mean 'very small'.
26. obvious — Both words mean 'easy to see'.
27. B — 'Hester crept through the dense undergrowth'
28. A — 'signalling to Benito, her cameraman, to remain silent.'
29. A — 'the forest was a treasure chest of filming opportunities'
30. C — 'she just hoped that today would be a good day.'
31. B — 'thorny vines gleefully tangled themselves in her mop of curly blonde hair.'
32. A — 'Parting the emerald green fronds of the fragrant ferns'
33. C — 'A few metres away from her was a whole family of chimps.'
34. A — 'She couldn't believe her luck.'
35. B — 'Making sure that Benito was recording'
36. A — 'she turned breathlessly to face the camera.'
37. C — 'she said quietly to the camera.'
38. B — 'the large male is cracking the hard outer shells'
39. C — 'Meanwhile, the female is grooming her infant'
40. A — 'the young chimp closed its eyes'
41. B — 'Its mouth was curved into a contented smile'
42. A — 'the chimp reminded Hester of her own son when he was a baby.'
43. triumph — 'lose' means 'to be unsuccessful', whereas 'triumph' means 'to be successful'.
44. beneath — 'above' means 'at a higher level', whereas 'beneath' means 'at a lower level'.
45. borrow — lend' means 'to give something as a temporary loan', whereas 'borrow' means 'to receive something as a temporary loan'.
46. generous — 'selfish' means 'acting for one's own benefit', whereas 'generous' means 'giving more than is necessary for other people's benefit'.

47. **antique** — *'modern' means 'new', whereas 'antique' means 'old'.*
48. **retrieve** — *'misplace' means 'to lose something', whereas 'retrieve' means 'to get something back'.*
49. **chef** — *Both words mean 'someone who prepares food'.*
50. **relax** — *Both words mean 'to unwind'.*
51. **rubbish** — *Both words mean 'garbage'.*
52. **trunk** — *Both words mean 'a case for storing items'.*
53. **kin** — *Both words mean 'a family member'.*
54. **gown** — *Both words mean 'a frock'.*
55. **scrumptious** — *Both words mean 'delicious'.*
56. **detest** — *Both words mean 'to loathe'.*