BROAD HORIZON
TUITION

11+ Tuition

Year 5 - Intensive

Week 1 – Session 2

ANSWERS

Starter Task – Maths

1)				
		4	7	9
x			6	3
3	**0**	**1**	**7**	**7**

2)		**5**	**3**	**4**
7	3	7	3	8

3)		**5**	**3**	**4**
9	4	8	0	6

4) 76.2 ÷ 1000 =

0.0762

5) 0.7 x 1000 =

700

6) 3.2 ÷ 100 =

0.032

7) 6.2 x 34 =

210.8

8) 4.8 ÷ 4 =

1.2

9) 39 ÷ 0.3 =

130

Starter Task – Verbal

GL Techniques

Type 1:

1) books school
2) Sally dog

Type 2:

3) sea sky
4) track motorway

Type 3:

5) FAT TUBE
6) TON TRIP

Type 4:

7) income
8) powerless

Maths

Practice - BIDMAS – Order of Operations

Solve.

1) $4^3 + 15 \div 3$

Ans = **69**

2) $7 \times 2^4 - 28$

Ans = **84**

3) $6^2 - 92 \div 4$

Ans = **13**

4) $2 \times 3^3 + 10$

Ans = **64**

5) $5^2 \times 6 - 85$

Ans = **65**

6) $64 \div 2^5 + 24$

Ans = **26**

7) $70 \div 5 - 2^3$

Ans = **6**

8) $4^2 + 7 \times 2$

Ans = **30**

9) $2 \times 3^3 + 1$

Ans = **55**

10) $7 + 80 \div 4^2$

Ans = **12**

Solve.

1) $4^2 - 2 \times 3$

Ans = 10

2) $11 + 2^4 \div 8$

Ans = 13

3) $5^2 \div 5 + 22$

Ans = 27

4) $3 \times 7^2 + 1$

Ans = 148

5) $3^3 + 2 \times 8$

Ans = 43

6) $96 \div 2^5 - 2$

Ans = 1

7) $10 \times 12 - 2^4$

Ans = 104

8) $8^2 + 16 \div 4$

Ans = 68

9) $3^3 \div 9 + 2$

Ans = 5

10) $10 \times 5^2 - 172$

Ans = 78

Solve.

1) $5^2 + 26 \div 2 - 67$

Ans = **– 29**

2) $16 \times 2^3 - 19 + 3^2$

Ans = **118**

3) $19 - 10 \div 5 + 6^2 \times 2$

Ans = **89**

4) $4^2 \times 3 - 2^4 + 21 \div 7$

Ans = **35**

5) $8^2 + 1 \times 5 - 45$

Ans = **24**

6) $24 \div 3 + 5^3 - 13^2$

Ans = **– 36**

7) $48 \div 12 - 4^3 + 3$

Ans = **– 57**

8) $9^2 + 2 \times 3 \div 6 - 49$

Ans = **33**

9) $3 \times 2^5 + 15 - 12^2$

Ans = **– 33**

10) $8 + 88 \div 11 - 4^3 + 2$

Ans = **– 46**

Solve.

1) $(7^3 + 4) - 14 \times 6$

Ans = 263

2) $(44 \div 11)^4 - 78$

Ans = 178

3) $12^2 \div (3 \times 4) - 41$

Ans = – 29

4) $125 \div (17 - 12)^2$

Ans = 5

5) $(2^5 + 57) - 32 \div 4$

Ans = 81

6) $4^4 - (18 \div 9)$

Ans = 254

7) $(4 \times 5^2) + 16$

Ans = 116

8) $96 \div 2^3 - (4 \times 15)$

Ans = – 48

9) $3^3 + (11 \times 7) - 43$

Ans = 61

10) $(29 + 35) \div 2^2$

Ans = 16

Solve.

1) $(83 - 38) \div 3^2$

Ans = **5**

2) $(36 \div 9)^3 - 87$

Ans = **– 23**

3) $(7^2 + 41) \div 3 - 94$

Ans = **– 64**

4) $(14 \times 5) + 2^5$

Ans = **102**

5) $3^2 + (26 - 9) \times 2$

Ans = **43**

6) $7 + 66 \div (2^4 - 5)$

Ans = **13**

7) $(64 + 24) \div 2^3$

Ans = **11**

8) $(55 - 45)^2 \div 4$

Ans = **25**

9) $14 + 75 - (31 \times 3^2)$

Ans = **– 190**

10) $3^3 + 77 \div (27 - 16)$

Ans = **34**

Solve.

1) $28 \div 7 \times (6 + 7) - (19 + 25)$

Ans = **8**

2) $15 + 2 \times (16 \div 4) + 5 \times 2$

Ans = **33**

3) $36 \div 3 + (10 \times 3) - 18$

Ans = **24**

4) $76 \div (23 - 21) \times 2 + 9$

Ans = **85**

5) $16 + (24 - 4) \times 3 + 19$

Ans = **95**

6) $58 \div 2 + (2 \times 7) + 15 - 42$

Ans = **16**

7) $9 \times 48 \div (3 + 5) - 13$

Ans = **41**

8) $(94 - 16) \div 3 + 2 \times 6$

Ans = **38**

9) $64 \div (16 \times 4) + 12 - (7 + 5)$

Ans = **1**

10) $7 \times (2 + 4) - 63 - 24$

Ans = **– 45**

Solve.

1) $90 \div (2 \times 5) + 13 - 34$

Ans = **– 12**

2) $5 \times (7 + 11) - 56 \div (2 \times 4)$

Ans = **83**

3) $(39 - 13) \div 2 \times 5 - 45$

Ans = **20**

4) $28 \div (4 + 10) \times (4 + 24) \div 2$

Ans = **28**

5) $(21 \div 3) + 27 - (8 \times 5) + 75$

Ans = **69**

6) $39 + (74 - 63) \times 4 + 16$

Ans = **99**

7) $(12 + 8) \times 3 \div 4 + 15$

Ans = **30**

8) $3 \times (16 \div 2) + 16 \times 5$

Ans = **104**

9) $11 \times 5 - (72 + 18) \div 5$

Ans = **37**

10) $(64 \div 8) + 7 \times 8 + (40 - 38)$

Ans = **66**

Practice - Rounding Whole Numbers

Name : _____ Score : _____

Teacher : _____ Date : _____

Rounding Integer Numbers

Round each number to the nearest ten.

1)	33	30	6)	37	40
2)	27	30	7)	47	50
3)	76	80	8)	13	10
4)	52	50	9)	39	40
5)	78	80	10)	57	60

Round each number to the nearest ten.

1)	37	40	6)	42	40
2)	49	50	7)	34	30
3)	39	40	8)	11	10
4)	74	70	9)	25	30
5)	46	50	10)	83	80

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Name : _____ Score : _____

Teacher : _____ Date : _____

Rounding Integer Numbers

Round each number to the nearest hundred.

1)	261	300	6)	448	400
2)	514	500	7)	244	200
3)	662	700	8)	344	300
4)	656	700	9)	226	200
5)	582	600	10)	148	100

Round each number to the nearest hundred.

1)	791	800	6)	424	400
2)	873	900	7)	242	200
3)	669	700	8)	278	300
4)	896	900	9)	175	200
5)	486	500	10)	214	200

Rounding Integer Numbers

Round each number to the nearest thousand.

1)	5,734	6,000	6)	4,417	4,000
2)	1,547	2,000	7)	6,871	7,000
3)	4,432	4,000	8)	8,465	8,000
4)	8,535	9,000	9)	4,335	4,000
5)	2,345	2,000	10)	4,916	5,000

Round each number to the nearest thousand.

1)	4,819	5,000	6)	5,282	5,000
2)	5,937	6,000	7)	1,863	2,000
3)	5,639	6,000	8)	4,924	5,000
4)	7,779	8,000	9)	1,268	1,000
5)	6,477	6,000	10)	5,885	6,000

Further Practice - Rounding Decimal Numbers

Name : _____ Score : _____

Teacher : _____ Date : _____

Rounding Decimal Numbers

Round each number to the nearest hundredth.

1)	8.939	8.94	6)	1.911	1.91
2)	3.517	3.52	7)	8.927	8.93
3)	3.188	3.19	8)	9.537	9.54
4)	5.256	5.26	9)	9.292	9.29
5)	7.392	7.39	10)	5.588	5.59

Round each number to the nearest hundredth.

1)	5.1852	5.19	6)	4.4725	4.47
2)	4.1899	4.19	7)	8.2774	8.28
3)	6.7712	6.77	8)	1.3532	1.35
4)	5.6673	5.67	9)	5.5382	5.54
5)	6.5569	6.56	10)	7.1899	7.19

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Rounding Worksheets

Name : _____ Score : _____

Teacher : _____ Date : _____

Rounding Decimal Numbers

Round each number to the nearest thousandth.

1)	7.5729	7.573	6)	6.5774	6.577
2)	6.8397	6.840	7)	5.1674	5.167
3)	6.3288	6.329	8)	8.4793	8.479
4)	1.8435	1.844	9)	2.1944	2.194
5)	5.2346	5.235	10)	6.1686	6.169

Round each number to the nearest thousandth.

1)	7.88488	7.885	6)	4.35329	4.353
2)	2.52846	2.528	7)	6.19819	6.198
3)	9.64461	9.645	8)	4.79632	4.796
4)	6.93788	6.938	9)	7.42324	7.423
5)	7.48488	7.485	10)	8.98217	8.982

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Round Decimal Numbers **Answers**

Round decimals of one decimal place to whole numbers

Aim: I can round decimal numbers.

Round the following decimal numbers to the nearest whole number.

8.2	**8**	4.3	**4**	8.6	**9**
9.7	**10**	2.8	**3**	5.7	**6**
4.7	**5**	0.2	**0**	7.6	**8**
8.6	**9**	2.9	**3**	1.1	**1**
9.2	**9**	2.6	**3**	5.1	**5**
3.3	**3**	2.5	**3**	0.4	**0**
0.5	**1**	1.6	**2**	0.5	**1**
8.4	**8**	4.8	**5**	3.6	**4**
6.1	**6**	3.9	**4**	2.8	**3**
7.5	**8**	4.1	**4**	1.2	**1**

Round Decimal Numbers **Answers**

Round decimals of two decimal place to whole numbers

Aim: I can round decimal numbers.

Round the following decimal numbers to the nearest whole number.

0.75 **1**	0.96 **1**	0.74 **1**
0.34 **0**	0.66 **1**	0.09 **0**
0.25 **0**	0.29 **0**	0.66 **1**
0.23 **0**	0.85 **1**	0.82 **1**
0.46 **0**	0.61 **1**	0.52 **1**
0.77 **1**	0.17 **0**	0.41 **0**
0.27 **0**	0.35 **0**	0.74 **1**
0.88 **1**	0.07 **0**	0.77 **1**
0.05 **0**	0.34 **0**	0.76 **1**
0.95 **1**	0.66 **1**	0.58 **1**

Round Decimal Numbers **Answers**

Round decimals of two decimal places to one decimal place

Aim: I can round decimal numbers.

Round the following decimal numbers to the one decimal place.

0.58 **0.6**	0.63 **0.6**	0.46 **0.5**
0.36 **0.4**	0.74 **0.7**	0.42 **0.4**
0.88 **0.9**	15 **15.0**	0.79 **0.8**
0.18 **0.2**	0.53 **0.5**	0.64 **0.6**
0.97 **1.0**	0.48 **0.5**	0.95 **1.0**
0.95 **1.0**	0.62 **0.6**	0.05 **0.1**
0.37 **0.4**	0.09 **0.1**	0.22 **0.2**
0.97 **1.0**	0.23 **0.2**	0.35 **0.4**
0.83 **0.8**	0.65 **0.7**	0.81 **0.8**
0.26 **0.3**	0.25 **0.3**	0.24 **0.2**

Round Decimal Numbers **Answers**

Round decimals of two decimal places to whole numbers

Aim: I can round decimal numbers.

Round the following decimal numbers to the nearest whole number.

3.54	**4**	3.57	**4**	6.17	**6**
7.42	**7**	8.69	**9**	7.48	**7**
8.44	**8**	4.09	**4**	1.23	**1**
4.34	**4**	8.95	**9**	7.47	**7**
6.71	**7**	4.68	**5**	0.01	**0**
6.75	**7**	6.42	**6**	0.92	**1**
8.54	**9**	5.54	**6**	7.71	**8**
1.39	**1**	3.33	**3**	6.3	**6**
3.75	**4**	2.96	**3**	7.16	**7**
6.5	**7**	9.13	**9**	4.53	**5**

Application - Rounding

Rounding to the nearest 10 - Answers

Aim: I can use my knowledge of rounding to the nearest ten to solve word problems.

Remember:

- If the units digit is 0, 1, 2, 3 or 4 then the tens digit stays the same.

152 → 150

- If the units digit is 5, 6, 7, 8 or 9 then the tens digit goes up by 1.

678 → 680

1. There were 416 passengers on the Boeing 747 flying from Glasgow airport to New York City.
   Round this to the nearest 10 **420**

2. Lukas measures the length of his bedroom, it was 372cm.
   Round this to the nearest 10 **370cm**

3. There were 5378 fans at the Scottish League Cup final game.
   Round this to the nearest 10 **5380**

4. When Brodie was born he weighed 8lb 7oz (this is the same as 3827g) and he measured 57cm in length.
   Round his weight (in grams) to the nearest 10 **3830g**
   Round his length to the nearest 10 **60cm**

5. Callum has 248 stamps in his collection.
   Round this to the nearest 10 **250**

Rounding to the nearest 100 - Answers

Aim: I can use my knowledge of rounding to the nearest hundred to solve word problems.

Remember:

- If the tens digit is 0, 1, 2, 3 or 4 then the hundreds digit stays the same.

137 → 100

- If the tens digit is 5, 6, 7, 8 or 9 then the hundreds digit goes up by 1.

5664 → 5700

1. The local newspaper, The Advertiser, sold 7372 copies.

   Round this to the nearest 100 **7400**

2. 43 678 fans bought tickets for the Six Nations rugby match at Murrayfield Stadium.

   Round this to the nearest 100 **43 700**

3. 4693 blue cars drove over the Erskine Bridge during a recent traffic survey. 7564 red cars were also counted.

   Round the number of blue cars to the nearest 100 **4700**

   Round the number of red cars to the nearest 100 **7600**

   Round the number of blue and red cars to the nearest 100 **12 300**

4. 2368 red squirrels were spotted in the Highlands between January and September.

   Round this to the nearest 100 **2400**

Round these to the nearest 100

2435	3756	9879	3375	2142	1664	678
2400	**3800**	**9900**	**3400**	**2100**	**1700**	**700**
8976	24 456	5732	68 831	4265	752	398
9000	**24 500**	**5700**	**68 800**	**4300**	**800**	**400**

Rounding to the nearest 10 and 100 - Answers

Aim: I can use my knowledge of rounding to the nearest ten and hundred to solve word

Round these to the nearest 10 and 100

2435	3756	9879	3375	2142	1664	678
2440	**3760**	**9880**	**3380**	**2140**	**1660**	**680**
2400	**3800**	**9900**	**3400**	**2100**	**1700**	**700**

1. Four friends won £38 856.00 in the lottery and they split it equally between them.

   How much did each friend win?

   Round their individual winnings to the nearest 10 **£9710**

   Round their individual winnings to the nearest 100 **£9700**

   Round their total winnings to the nearest 1000 **£10 000**

2. The table below shows the 2013 traffic survey of the total number of vehicles to pass over the Forth Road Bridge from January to June. Complete the table by rounding to the nearest 10 and nearest 100.

Month	Total	Round to nearest 10	Round to nearest 100
Jan	1 808 012	**1 808 010**	**1 808 000**
Feb	1 873 150	**1 873 150**	**1 873 200**
Mar	2 067 401	**2 067 400**	**2 067 400**
Apr	2 147 666	**2 147 670**	**2 147 700**
May	2 301 024	**2 301 020**	**2 301 000**
Jun	2 229 848	**2 229 850**	**2 229 800**

3. It has been reported that the Ferrari 458 Italia will cost from £149 246.00

   Round this to the nearest 10 **£149 250.00**

   Round this to the nearest 100 **£149 200.00**

   Round this to the nearest 1000 **£149 000.00**

Verbal Reasoning – Technique Type 6 -9

TYPE SIX:

BORE
FARM
PLAY
TOIL
FAIL
FREE
COOK
HEAP
TALK
HAVE
LAST
WELD
HOOF
BALL
BARE
SLEW
PALM
SLIP
FISH
DARK

TYPE SEVEN:

cure solution
buy acquire
smell fragrance
agile spry
strong vigorous
imperative essential
revolve gyrate
obstinate flexible
clear opaque
peaceful noisy
occupied empty
quit stay
hide reveal
friend foe
outside interior
allow forbid
odd usual
assist obstruct
indolent industrious
begin conclude

TYPE EIGHT:

laze
cash
pets
sung
sat
stir
part
sat
won
name
art
dear
seat
strap
dank
calm
came
tube
cart
test

TYPE NINE:

ATE	SON	POD
WON	ADO	SET
LOW	EAR	TRY
SAT	AGE	WON
MAT	EGO	TEN
ACT	TOE	EYE
ONE	REV	EWE
PIT	ARE	RED
WIT	ONE	END
ATE	NOW	TEE

Non-verbal

Shapes and Counting

Shapes — p.2-3

Warm Up

1. a) 4 b) 3 c) 8 d) 7 e) 6 f) 4 g) 10

2. a) 2 b) 1 c) 4 d) 0 e) 2 f) 1 g) 5

3. a) E.g. every shape has six sides.
b) E.g. every shape has one curved line.

Odd One Out

4. **A**
All other figures are symmetrical along the dotted line.

5. **C**
All other figures have a pentagon.

6. **C**
In all other figures, the large shape has six sides.

7. **B**
In all other figures, the two shapes have the same number of sides.

Complete the Series

8. **B**
In each series square, the shape gets bigger and alternates between a black triangle and a grey square.

9. **D**
In each series square, the shape gains a side. The hatching alternates between vertical and horizontal.

10. **C**
In each series square, the shape has one more line of symmetry.

Counting — p.4-5

Warm Up

1. a) 4 b) 4 c) 5 d) 3 e) 6 f) 7 g) 5

2. a) 1 b) 4 c) 2 d) 5 e) 2 f) 3 g) 7

3. a) 6 b) 4 c) 4 d) 6 e) 6 f) 4 g) 2
They're all even numbers.

Find the Figure Like the First Two

4. **A**
In all figures, there must be three grey circles.

5. **D**
In all figures, the number of crosses and the number of rectangles must add up to four.

6. **D**
In all figures, the number of white arrows must be double the number of black arrows.

7. **D**
All figures must have exactly two black squares.

Complete the Square Grid

8. **B**
Working from left to right, the number of squares alternates between four and five. All the squares in each column are the same colour.

9. **C**
Each number of lines (one, two and three) only appears once in each row and column.

10. **D**
In each row, the number of shapes in the right-hand grid square equals the number in the left-hand grid square added to the number in the middle grid square.

SPOTTING PATTERNS

Shapes — p.2-3

Warm Up

1. a) 6 b) 7 c) 8 d) 8 e) 12 f) 7

2. a) 1 b) 0 c) 1 d) 1 e) 3 f) 2 g) 4

3. Number of five-sided shapes: 4

Complete the Series

4. **C**
In each series square the shape gets narrower.

5. **A**
The shape gains an extra side in each series square. It alternates between white with a solid outline and grey with a dashed outline.

6. **B**
Each shape has an extra line of symmetry in each series square.

7. **C**
In each series square, the black circle gets bigger and the white circle gets smaller.

Complete the Square Grid

8. **B**
Working from left to right, the shape in each grid square gets bigger.

9. **D**
Each shape (pentagon, triangle and parallelogram) only appears once in each row and column. Each type of shading (grey, white and spotted) also only appears once in each row and column.

10. **B**
In each row, the shape in the first grid square gets bigger and moves to the back of the third grid square. The shape in the second grid square gets smaller and moves to the front of the third grid square.

Counting — p.4-5

Warm Up

1. a) 9 b) 7 c) 9 d) 8 e) 5 f) 8 g) 6

2. a) 2 b) 3 c) 5 d) 2 e) 2 f) 4 g) 1

3. Number of shapes with three dots: 4
Number of shapes with five objects: 3

Changing Bugs

4. **C**
The bug loses two legs and they curve up instead of down.

5. **B**
The bug gains an extra spike in its tail.

6. **B**
The bug loses two antennae and gains two legs.

7. **D**
The bug loses two legs and also loses a bend in each leg.

Complete the Hexagonal Grid

8. **B**
The rectangles reflect across the middle of the hexagonal grid.

9. **A**
Going in a clockwise direction from the top left hexagon, the number of points on the star increases by one. The grey point rotates 60 degrees clockwise.

10. **A**
Going in an anticlockwise direction from the bottom hexagon, the total number of objects (lines and circles) increases by one in each hexagon.

Quick Lesson Recap

1. Round 4587 to the nearest hundred = 4600

2. Round 6.214 to the nearest hundredth = 6.21

3. Round 9.654 to 2 decimal places = 9.65

4)				
		7	6	9
x			3	7
	5	**3**	**8**	**3**
2	**3**	**0**	**7**	**0**
2	**8**	**4**	**5**	**3**

5)	**0**	**3**	**6**	**5**
8	2	9	2	0

6)	**0**	**9**	**9**	**9**
6	5	9	9	4

7) 635 ÷ 1000 = **0.635**

8) 3.6 x 1000 = **3600**

9) 97 ÷ 1000 = **0.097**

1) $(2^2 + 6 \times 2) \div 4 - 7 = -3$

2) $8 - 6 \times 2 + 5 = 1$

3) $(6 + 3^2 \div 3) \times 4 + 8 = 44$