All Kinds of Word Problems

Number and Place Value
10 Questions, Answers and a Challenge

Year 4

THIRD SPACE LEARNING

Year 4 Problems on Number and Place Value

Name.....

Date.....Class.....

School .....

Please write your answer on the answer line provided. You can use the space provided below the question for working out if you need it.

1 Look at these numbers:

400 225 135 990 300 345 600 880 775 100

a Which of them would you say if you started from the number 150 and counted up in 10s?

b Which of them would you say if you started on 150 and counted up in 25s?

c Which of them would you say if you started on 150 and counted up in 100s?

Answer a .....

Answer b .....

Answer c .....

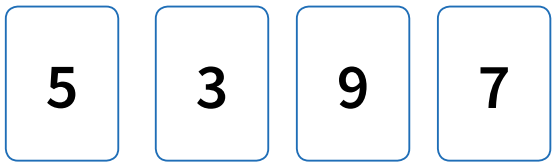
2 Complete the table below to find 100 more and 100 less than the actual number.
Then find 1000 more and 1000 less than the actual number.
The first example has been done for you.

1000 less	100 less	Actual number	100 more	1000 more
2011	2911	3011	3111	4011
231				
			3456	
				6987
	1134			
		4555		

3 Complete the table to show the value of the digits in each number.
Use words like in the example below.
If the number in the first column does not have a 1, 3, 5 or 9 digit in it, then you can leave that value blank.

Number	Value of 1	Value of 3	Value of 5	Value of 9
123	'one hundred' or 'one lot of hundred'	'three' or 'three lots of one'		
5913				
9053				
1059				
509				
2095				

4 I have four digit cards, shown below.
I can only use each digit card once when making each number.



a What is the largest number I can make with my digit cards?

b What is the smallest number I can make with my digit cards?

c What is the difference between the two numbers you made in a and b?

Answer a .....

Answer b .....

Answer c .....

5 Amjit has 8 counters to make different numbers using the place value grid below.

TH	H	T	O

a Can you help him identify the largest 4 digit number he can make that has at least one counter in each column of the grid?

b Can you help him identify the smallest 4 digit number he can make that has at least one counter in each column of the grid?

c Can you help him make a number with a value which falls in the middle of the largest and smallest numbers he made?

Answer a .....

Answer b .....

Answer c .....

6 Eva is collecting pound coins.
Every time she reaches £25 she deposits it into her bank account.
How many visits to the bank will she have made when she has saved £325?

Answer .....

7 Leo used one set of 0 - 9 digit cards (0, 1, 2, 3, 4, 5, 6, 7, 8, 9).
He has only one card for each digit to help him create answers to the following calculations.

10 more than 65 – 22
100 more than 10 x 2
100 less than 10 x 10
1000 more than 10 + 23
10 less than 345 + 55
1000 less than 100 x 10

Which of the calculations above can not be answered using Leo's 0 - 9 digit cards?

Answer .....

8 Thomas looked at the temperatures over a week.

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Daytime temperature recorded	9 °C	8 °C	2 °C	3 °C	−2 °C	−1 °C	−5 °C
Night time temperature recorded	2 °C	1 °C	−2 °C	1 °C	0 °C	−9 °C	−10 °C

a What was the lowest temperature recorded?

b What was the highest temperature recorded?

c What is the difference between the two temperatures you have found?

Answer a ..... °C

Answer b ..... °C

Answer c ..... °C

9 Hari created 5 four digit numbers.
In each number the tens digit was a 3.
When he added up all the digits in each of his 5 numbers they came to the total 7.
What could Hari's five numbers be?

Answer .....

10 Using 0 - 9 digit cards (0, 1, 2, 3, 4, 5, 6, 7, 8, 9) can you make the following 4 digit numbers? You can only use each digit card once in each number you make.

a Can you make the smallest odd number from all the digit cards?

b Can you make the smallest even number from all the digit cards?

c Can you make the largest odd number from all the digit cards?

d Can you make the largest even number from all the digit cards?

Answer a .....

Answer b .....

Answer c .....

Answer d .....

Challenge Question!

Callum has created a circuit of lights to help him practise his times tables.

The red light flashes every 3 seconds.
The blue light flashes every 5 seconds.
The yellow light flashes every 6 seconds.

a Using a hundred square to help, when will all the lights flash at the same time?

b Using a hundred square to help, write down three times when none of the lights will flash.

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

Answer a = all lights will flash after .....

Answer b = no lights will flash after .....

.....

Answer Sheet

1

a. 400, 990, 300, 600, 880
b. 400, 225, 300, 600, 775
c. Trick question - you would not say any of the numbers

Content Domain: Counting in multiples (4N1)

2

1000 less	100 less	Actual number	100 more	1000 more
2011	2911	3011	3111	4011
231	1131	1231	1331	2231
2356	3256	3356	3456	4356
4987	5887	5987	6087	6987
234	1134	1234	1334	2234
3555	4455	4555	4655	5555

Content Domain: Finding 100 and 1000 more or less than a given number (4N2b)

3

Number	Value of 1	Value of 3	Value of 5	Value of 9
123	One hundred or one lot of hundred	Three or three lots of one		
5913	Ten or one ten	Three or three lots of one	Five thousands or five lots of thousand	Nine hundreds or nine lots of hundred
9053		Three or three lots of one	Fifty or five lots of ten	Nine thousands or nine lots of thousand
1059	One thousand or one lot of a thousand		Fifty or five lots of ten	Nine or nine lots of one
509			Five hundreds or five lots of hundred	Nine or nine lots of one
2095			Five or five ones	Ninety or nine lots of ten

Content Domain: Recognising place value up to the thousands (4N3a)

4

a. 9753
b. 3579
c. 6174

Content Domains: Ordering and recognising 4 digit numbers (4N2a, 4N3a)

5

a. 5111
b. 1115
c. 3113

Content Domains: Recognising place value in context (4N3a, 4N6)

6

Eva will have visited the bank 13 times.

Content Domain: Counting in multiples of 25 (4N1)

7

100 more than 10 + 23 as he would need two digit cards showing 3 to make 133.

Content Domain: Finding 1000 more or less than a number (4N2b)

8

a. – 10 ^{0}C
b. 9 ^{0}C
c. 19 ^{0}C

Content Domain: Using negative numbers across zero (4N5)

9

All possible answers are:
1132, 1231, 1330, 1033, 2032, 2131, 2230, 3031, 3130, 4030

Content Domain: Value of digits (4N3a)

10

a. 1023
b. 1024
c. 9875
d. 9876

Content Domains: Ordering and recognising number value, Solving problems using such approaches (4N1, 4N2a, 4N3a, 4N6)

Challenge Question

a. All lights will flash after 30 seconds, 60 seconds and 90 seconds.
b. No lights will flash after 1, 2, 4, 7, 8, 11, 13, 14, 16, 17, 19, 22, 23, 26, 28, 29, 31, 32, 34, 37, 38, 41, 43, 44, 46, 47, 49, 52, 53, 56, 58, 59, 61, 62, 64, 67, 68, 71, 73, 74, 76, 77, 79, 82, 83, 86, 88, 91, 92, 94, 97 seconds.

Content Domain: Value of digits (4N3a)