All Kinds of Word Problems

Number and Place Value
10 Questions, Answers and a Challenge

Year 3

THIRD SPACE LEARNING

Year 3 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 A burglar needs to crack the safe code. It is made up of patterns of number. Complete the sequences by writing the missing numbers on the lines below to crack the code:

a 0, ..., 100, 150, ...

b 1000, 900, ..., ..., 600

What would the 10th number in the first sequence be?

Answer .....

2 On the planet Zog, they only write numbers in words.
Can you write the correct digits in the table to represent each of the Planet Zog numbers below?

Be careful - the order of the Planet Zog numbers doesn't match the order of the numbers in the table!

six hundred and fifty four

two hundred and seventy six

three hundred and sixty seven

seven hundred and three

nine hundred and forty five

Hundreds	Tens	Ones
	6	
9		
		6
	0	
		4

3 A farmer has 3 types of flower in his meadow.
Each has a different number of petals:

1 primrose has 4 petals
1 buttercup has 8 petals
1 daisy has 50 petals

He has 5 of each flower.
Can you write a calculation and answer to show how many petals the farmer has for each type of flower?

Answer Primrose = ...

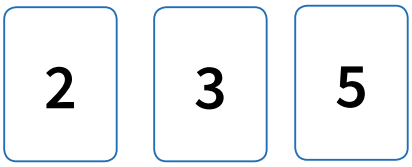
Buttercup = ...

Daisy = ...

4 Complete the table below by finding 10 more and 10 less than the actual number.
Every number should have 3 digits.
The first example has been done for you.

10 less	Actual number	10 more
461	471	481
944		
	362	
123		
	845	
	603	

5 a Using the digit cards below, make all the possible numbers you can.



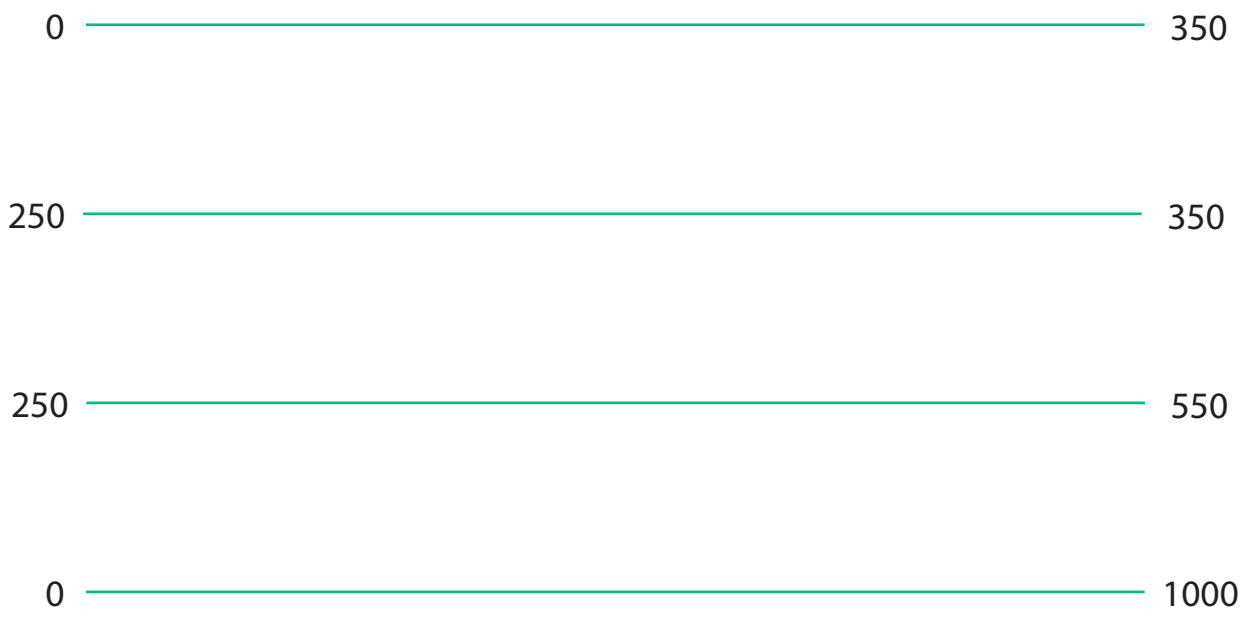
You must use all the cards to make each number and you cannot use any digit card more than once in a number.

Answer a ....., ..., ..., ..., ..., ...,

b Can you find the difference between the smallest number you have made and the largest number you have made?

Answer b .....

6 Place the number 320 in the correct place on each of the number lines below:



7 Complete the table below by finding 100 more and 100 less than the actual number. Every number should have 3 digits.

100 less	Actual number	100 more
		521
822		
	479	
603		
		578
	299	

8 Using three of the 4 digit cards below, make two true number sentences.
You must use the 'greater than' or 'less than' symbol in both number sentences.

For example, with the digits 1, 2 and 3, you could make these number sentences:

123 < 321
321 > 231

6	4	0	7

Number sentence 1 .....

Number sentence 2 .....

9 Looking at the place value grid below, imagine you have 9 counters.

H	T	O

a Identify the largest 3 digit number you can make with at least one counter in each column of the grid.

b Identify the smallest 3 digit number you can make with at least one counter in each column of the grid.

Answer a .....

Answer b .....

10 Sara is running an obstacle race over 100 m which is represented by the number line below.

Using the clues, can you label approximately where each obstacle would go on the number line?

The first obstacle is 10 m more than Sara's starting point.
The second obstacle is 20 m more than Sara's starting point.
The fifth obstacle is half way between the starting point and the end.
The ninth obstacle is 10 m less than the end.

Challenge Question!

Asma is investigating 3 digit numbers.
Her teacher says the digits she uses have to add up to 5.
For example, 311, 104 and so on.

How many three digit numbers can she make with digits that add up to 5?

Answer a .....

Answer sheet

1

a. 0, 50, 100, 150, 200
b. 1000, 900, 800, 700, 600
c. 450

Content Domain: Counting in multiples of 50 and 100 to 1000 (3N1b)

2

Hundreds	Tens	Ones
3	6	7
9	4	5
2	7	6
7	0	3
6	5	4

Content Domain: Recognise digit value in 3 digit numbers (3N3)

3

Primrose: 20 petals
(4, 8, 12, 16, 20) or (4 x 5)

Buttercup: 40 petals
(8, 16, 24, 32, 40) or (8 x 5)

Daisy: 250 petals
(50, 100, 150, 200, 250) or (50 x 5)

Content Domain: Counting multiples of 4, 8, 50 (3N1b)

4

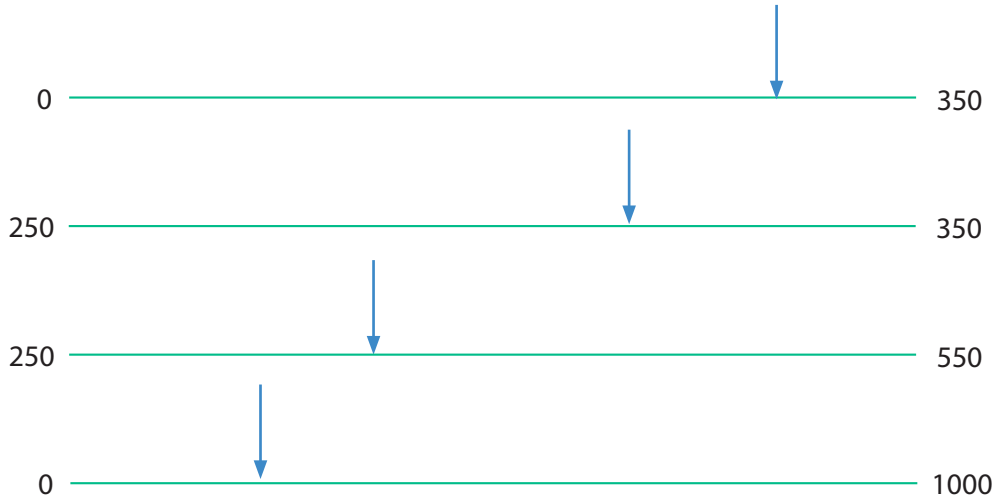
10 less	Actual number	10 more
461	**471**	**481**
944	954	964
352	**362**	372
123	133	143
825	**845**	845
593	603	**613**

Content Domain: Finding 10 more or less than a given number (3N2b)

5 a. Possible numbers are: 235, 253, 325, 352, 523, 532.
b. The difference between the largest and smallest number is 297.

Content Domain: Compare and order numbers up to 1000 (3N2a)

6 The number 320 should be placed on the number line in roughly the following places:



Content Domain: Identify value of number using representation (3N4)

7

100 less	Actual number	100 more
321	421	**521**
832	932	1032
379	**479**	579
603	703	803
378	478	**578**
199	**299**	399

Content Domain: Find a number 100 more or less than a given number (3N2b)

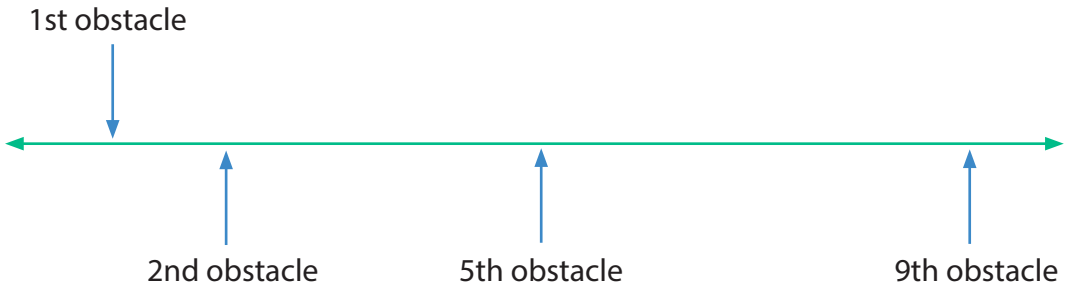
8 Any correct number sentences using 3 of the 4 digit cards 6, 4, 0, 7 to make two 3 digit numbers.

Content Domain: Recognizing the value of digits (3N3)

9 a. Largest number: 711
b. Smallest number: 117

Content Domain: Recognizing the value of digits (3N3)

10 The obstacles should be placed on the number line in roughly the following places:



Content Domain: Estimation of number using representation (3N4)

Challenge Question

She can make 15 numbers where the 3 digits add up to 5.
(104, 113, 122, 131, 140, 203, 212, 221, 230, 302, 311, 320, 401, 410, 500)

Content Domains: Writing numbers to 1 000, Recognising value (3N2a, 3N3)