Green

1a. Helen thinks she has represented 5,213. Is she correct?	**1b.** Courtney thinks he has represented 8,611. Is he correct?
2a. Look at the number shown in the place value chart.	**2b.** Look at the number shown in the place value chart.

2a place value chart:

Th	H	T	O

A. Add 10 to the number
B. Subtract 100 from the number
C. Add 1,000 to the number

Write each of your new numbers in digits.

2b place value chart:

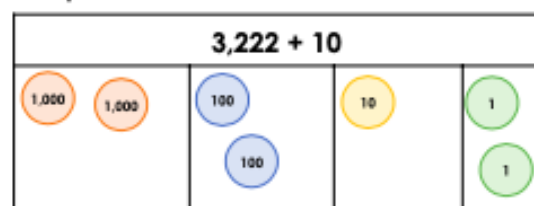| Th	H	T	O

A. Subtract 100 from the number
B. Subtract 1,000 from the number
C. Add 10 to the number

Write each of your new numbers in digits.

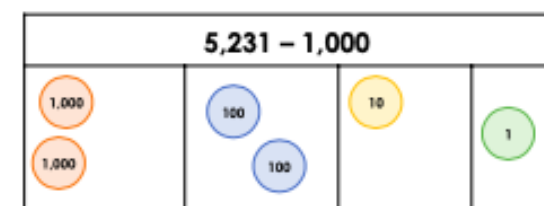|	
3a. Draw three more counters to complete the bar model.	**3b.** Draw four more counters to complete the bar model.

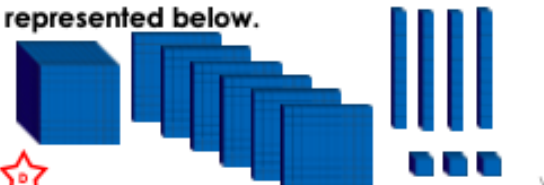**3a.** 3,222 + 10

3b. 5,231 − 1,000

4a. True or false? The digits 3, 4, 5 and 6 can be used to write the number represented below.	**4b.** True or false? The digits 1, 3, 4 and 6 can be used to write the number represented below.

Congratulations! You have been selected from the hundreds of applications to lead the exciting new mission to find a galaxy far away.

From: Mr Armstrong(space-discovery.org.uk)
Sent: 03 December 2050 12:57:12
Subject: Exciting Mission

Dear Captain Smith

I have looked at your career so far and the space missions you have been involved in and I am pleased to tell you that you have been selected to lead a new mission to find a galaxy far away. The mission leaves as soon as all crew have arrived!

You have reached Space Discovery Headquarters and as captain of the mission it is time to put your crew together. The optimum age for an astronaut is 25 to 35. Complete the table below to find out which astronauts would fit into this category (You might want to check the date on the e-mail). Use the example below to correctly format your answers.

1.		Date of Birth	Clue	Age
	Astronaut 1	_ _ / _ _ / _ _	80 thousands, 9 hundreds and 31 ones	
	Astronaut 2	_ _ / _ _ / _ _	90 thousands, 1 thousand, 1 hundred and 23 ones	
	Astronaut 3	_ _ / _ _ / _ _	10 thousands, 817 ones	
	Astronaut 4	_ _ / _ _ / _ _	61 thousands, 2 tens and 7 ones	
	Astronaut 5	_ _ / _ _ / _ _	70 thousands, 72 tens and 0 ones	
	Astronaut 6	_ _ / _ _ / _ _	30 thousands, 9 hundreds, 2 tens and 2 ones	
	You	01/06/16	10 thousands, 6 hundreds and 16 ones	34

Which astronauts would fit the age range?

Now you have identified some possible crew members for your mission, you need to think about weight.

The shuttle has a maximum load of 3 people with a maximum weight capacity of 275,000g. It will be a long mission so you need to allow for the weight of astronauts to fluctuate. They could lose up to 10,000g or gain 1,000g.

2.

Item	Loss	Current weight (g)	Gain
Astronaut 1		82,553	
Astronaut 2		105,346	
Astronaut 3		78,436	
Astronaut 4		99,815	
Astronaut 5		134,432	
Astronaut 6		112,567	
You		84,887	

Using ALL the information you have, which 2 astronauts will you take with you?

Brilliant! Now you have the crew identified, it's time to pack the shuttle.
As always with these missions, weight is very important.

3. Items have been rounded to the nearest 100g and 1000g.
What could be the actual weight of the item?

	Actual weight of water	Rounded to the nearest 100g	Rounded to the nearest 1,000g
		8,100g	8,000g

	Actual weight of food	Rounded to the nearest 100g	Rounded to the nearest 1,000g
		10,300g	10,000g

	Actual weight of rucksacks	Rounded to the nearest 100g	Rounded to the nearest 1,000g
		15,700g	16,000g

	Actual weight of toolkit	Rounded to the nearest 100g	Rounded to the nearest 1,000g
		3,200g	3,000g

Green Answers

1a. Helen is correct.
2a. A = 2,645, B = 2,535, C = 3,635
3a. 1,000, 10, 10
4a. False, the number is 2,335.

1b. No, the number is 6,811
2b. A = 2,631, B = 1,731, C = 2,741
3b. 1,000, 1,000, 10, 10
4b. True

Yellow Answers

1.

Planet	Date of Birth	Clue	Age
Astronaut 1	08/09/31	80 thousands, 9 hundreds and 31 ones	19
Astronaut 2	09/11/23	90 thousands, 1 thousand, 1 hundred and 23 ones	27
Astronaut 3	01/08/17	10 thousands, 817 ones	33
Astronaut 4	06/10/27	61 thousands, 2 tens and 7 ones	23
Astronaut 5	07/07/20	70 thousands, 72 tens and 0 ones	30
Astronaut 6	03/09/22	30 thousands, 9 hundreds, 2 tens and 2 ones	28

Astronauts 2, 3, 5 and 6 fit the age range.

Red Answers

2.

Item	Loss	Current weight (g)	Gain
Astronaut 1	72,553	82,553	83,553
Astronaut 2	95,346	105,346	106,346
Astronaut 3	68,436	78,436	79,436
Astronaut 4	89,815	99,815	100,815
Astronaut 5	124,432	134,432	135,432
Astronaut 6	102,567	112,567	113,567
You	74,887	84,887	85,887

Astronauts 2 and 3 need to be chosen to be both in the age range and crew weight limit.

3. Water – number between 8,050g and 8,149g
   Rucksacks - number between 15,650g and 15,749g
   Food - number between 10,250g and 10,349g
   Tools - number between 3,150g and 3,249g