Hi Yachts!

Mental Maths

What can you tell me about the number 639?

Think about things like which of the digits are odd or even, how many ones are there, what can you divide the number by, what is the sum of the digits…

Use the RUCSAC method to solve the problems:

	Read	Read the question carefully.	
	Underline	Underline or write down the keywords and numbers.	
	Choose	Choose the correct operation (+ - x or ÷) and a mental or written method of calculation (you could use diagrams).	
	Solve	Solve it! Make sure you follow the steps carefully.	
	Answer	Check that you have answered the question properly. What did you need to find out in the first place?	
	Check	Check your answer. Use the inverse calculation or another checking technique (was it close to your estimate?)	

---

1. Start on the number 9 and colour in the box. Jump on by 10 and colour that box. Keep jumping on by 10 and colouring the boxes as you go.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	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

2. Using a different coloured pencil, start on the number 94 and colour in the box. Jump back by 10 and colour that box. Keep jumping back by 10 and colouring the boxes as you go.

3. Can you explain the pattern?

> When you count on or back in tens from any number, only the tens digit changes.
> - When you <u>count on</u>, the tens digit becomes 1 <u>greater</u> each time.
>   Example: Counting on in tens from 26 goes 26, 36, 46, 56, 66...
> - When you <u>count back</u>, the tens digit becomes 1 <u>smaller</u> each time.
>   Example: Counting back in tens from 87 goes 87, 77, 67, 57, 47...

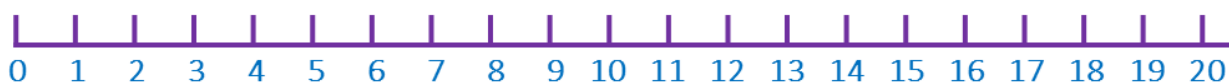4. On the number line below, start at the given number and count <u>up</u> in 10s to complete the patterns:

a. 13 ___ ___ ___ ___ ___ ___ ___ ___

b. 38 ___ ___ ___ ___ ___ ___

Now start at the given number and count <u>down</u> in 10s to complete the patterns:

c. 74 ___ ___ ___ ___ ___ ___ ___

d. 52 ___ ___ ___ ___ ___

```
0  1  2  3  4  5  6  7  8  9  10 11 12 13 14 15 16 17 18 19 20
```

```
21 22 23 24 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
```

5. Subtracting or adding 10 can be done by imagining a number as hundreds, tens and ones, then just removing or adding 1 ten. Example:

Subtracting 10	Starting number	Adding 10
56 - 10 = 46	56	56 + 10 = 66
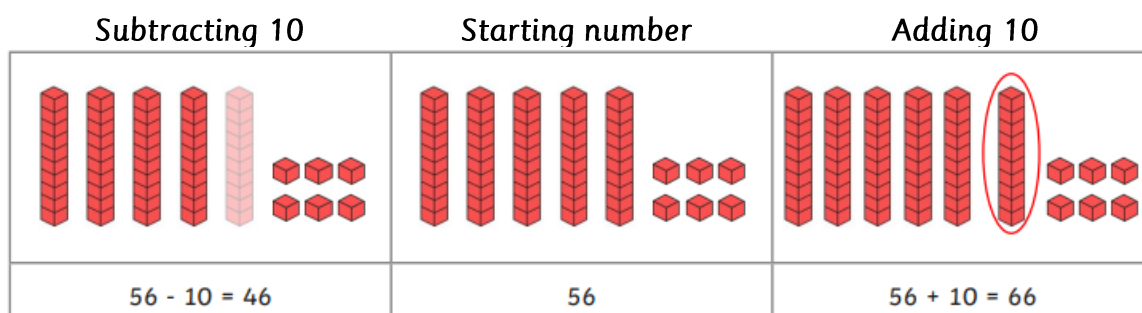
To solve the problems below, draw the starting number as hundreds, tens and ones in Dienes then subtract or add 1 of the tens:

a. 43 – 10

b. 27 + 10

c. 153 – 10

d. 185 + 10

e. Which digit changes each time?

6. We can use the same method when subtracting or adding 100. Instead of removing or adding 1 ten, we remove or add 1 hundred. Try it out with these calculations:

a. 943 – 100

b. 207 + 100

c. 550 – 100

d. 385 + 100

e. Which digit changes each time?

7. Fill in the missing numbers (Tip: You may need to use the inverse operation).

10 less	Starting number	10 more
	325	
674		
	892	
		901

Challenges
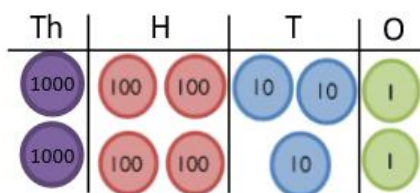
8.
   a. Write the number represented in the place value chart.

   b. Add 3 thousands and write the new number.

   c. What has changed?

9. Complete the table:

1000 more	Starting number	1000 less
	3467	
2219		
		665