5.2.21 Investigation

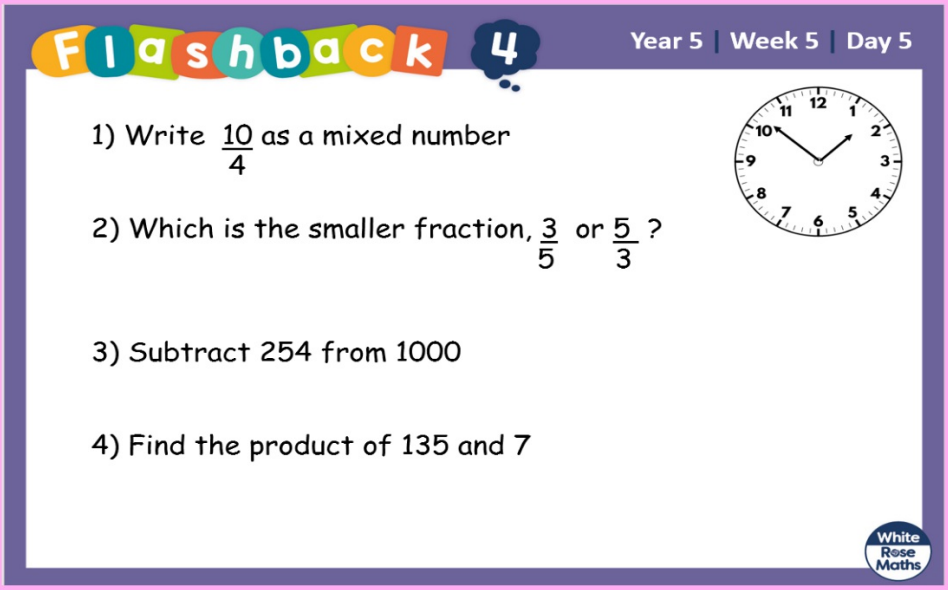
Learning Objective:
We are learning to solve an investigation systematically.

I will be successful if:

- I can be systematic in my working out.
- I can use sentence stems to help explain my thoughts.

Sentence stems

I already know that... so...
I started by...
I checked by...
I decided to...because...
I noticed that...
I wondered why...
The pattern I noticed was...
I used the inverse of...
I used the fact that...
I was systematic because I...



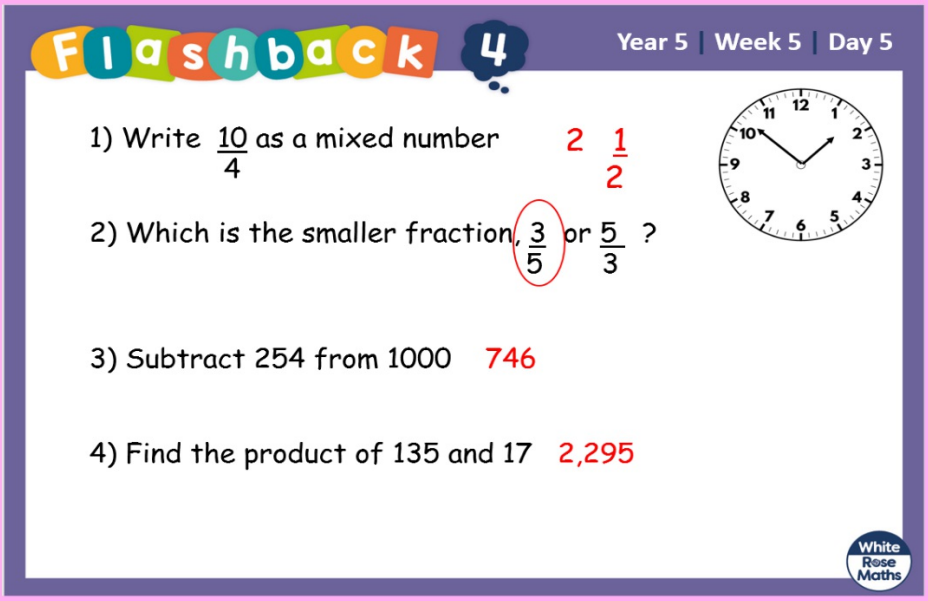
Challenge- Convert these Roman Numerals.

5) DLXXXI

6) DI

7) CCXXXVII

8) CMXC



Challenge- Convert these Roman Numerals.

5) DLXXXI 581

6) DI 501

7) CCXXXVII 237

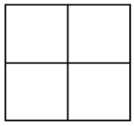
8) CMXC 990

Maths investigation

Make 200

1 2 3 4 5 6 7 8 9

Choose four of these digits.
Each one must be different.
Put one digit in each box.



This makes two 2-digit numbers reading across and two 2-digit numbers reading down.
Add up all four of the numbers.

In this example the total is 100.

1	2
4	7

12 + 47 + 14 + 27 = 100

How many different ways of making 200 can you find?

Try and be systematic and don't forget to show your working out.

Answers

83 Make 200

There are 22 different solutions. Eleven of the solutions are as follows:

1	9
7	2

2	8
6	3

2	9
5	3

3	5
7	4

4	1
9	5

4	2
8	5

4	3
7	5

5	1
7	6

6	1
5	7

6	2
4	7

7	1
3	8

Eleven more solutions are formed by changing over the two digits in the top right and bottom left boxes.

Discussion

How were you systematic in your approach?

Could you design your own investigation like this, but for a different total?

Would it work with decimals or money perhaps?