22.1.21   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...

Flashback 4

1) 835 ml of juice is poured equally between 5 glasses.
How much juice is in each glass?

2) Work out 38×23

3) Work out 20×60

4) Milo spends £72, £34 and £59
How much does he spend in total?

White Rose Maths

Challenge
5) 141 x 100 =
6) 1.05 x 1000 =
7) 0.6 x 10 =
8) 3.6 x 100 =

1) 835 ml of juice is poured equally between 5 glasses.
How much juice is in each glass?   167 ml
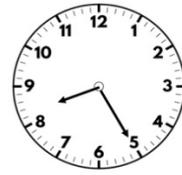
2) Work out 38 × 23   874

3) Work out 20 × 60   1,200

4) Milo spends £72, £34 and £59
How much does he spend in total?   £165

White Rose Maths

Challenge
5) 141 x 100 = 14,100
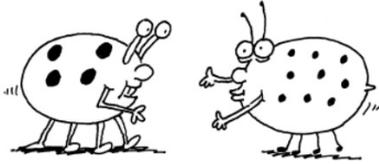6) 1.05 x 1000 = 1050
7) 0.6 x 10 = 6
8) 3.6 x 100 = 360

Maths investigation

Zids and Zods

Zids have 4 spots.
Zods have 9 spots.

Altogether some Zids and Zods have 48 spots.
How many Zids are there?
How many Zods?

What if Zids have 5 spots, Zods have 7 spots,
and there are 140 spots altogether?
Find as many solutions as you can.

Try and be systematic in
your working out.

Answers

66 Zids and Zods

There are 3 Zids with 4 spots and 4 Zods with 9 spots.

If Zids have 5 spots and Zods have 7 spots, the possible ways of making 140 are:

    28 Zids;
    21 Zids and 5 Zods;
    14 Zids and 10 Zods;
    7 Zids and 15 Zods;
    20 Zods.