Mathematical investigation (1)

Investigating is a great way to learn to think mathematically, apply logic, spot patterns and improve our perseverance.

Stepping stones

How it works…

- Katya the kangaroo jumps from stone to stone, doing maths as she goes. She ends up on a stone with the same number as the stone she started on!

10   **+2**   **-3**   **+1**   **10**

Challenge 1

- Cut out the stepping stones (*see resource*). Find other stepping stones so that Katya starts and finishes on 10. Use **three** stepping stones between 10 and 10 each time, writing in **blue** for adding and **green** for subtracting.

- Find at least four different ways!

- Did you spot a 'trick' for doing this…?

Challenge 2

- This time use **four** or even **five** stepping stones so that Katya starts and finishes on 10.
  Keep on writing in **blue** for adding and **green** for subtracting.

  Can you find at least four different ways?!

> Do you notice anything about the **blue** numbers and the **green** numbers?
> **TIP**! Add the blue numbers. Add the green numbers…
>
> Does this help you to make a new path for Katya?

Challenge 3

- Choose your own starting number. The finishing number must be the same.
- Create your own stepping stone path for Katya.

+1	+2	+3	+4
+5	+6	+7	+8
+9	+1	+2	+5
-1	-2	-3	-4
-5	-6	-7	-8
-9	-1	-2	-5