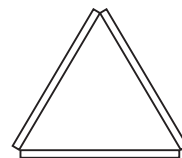


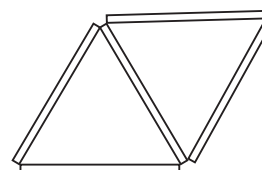
3 Number Patterns – 1

You will need some matchsticks.

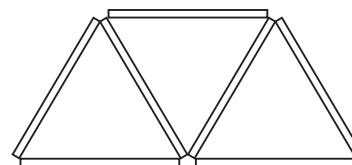
Make a triangle with 3 matchsticks.



Add 2 more to make 2 triangles.



Add some more to make 3 triangles.



Copy and complete this table:

Number of triangles	1	2	3	4	5
Number of matchsticks	3	5			

Explain how you got the three missing answers.

How many matchsticks would you need for 6 triangles?

How many matchsticks would you need for 10 triangles?

How many matchsticks would you need for 50 triangles?

Explain how you would find the answer for any number of triangles.

If you had 83 matchsticks, how many triangles could you make?

14 Jumping Counters

Take 3 black and 3 white counters.

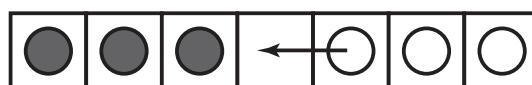


Try to change the colours over:



Rules

1 You can only **slide** one counter at a time



2 You can only **jump** one counter at a time



What is the smallest number of moves needed to change over the 3 counters?

What would be the smallest number of moves if you had 10 counters of each colour?

'n' counters of each colour?

Explain your findings.