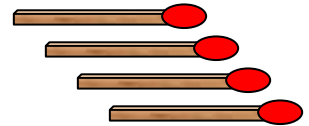
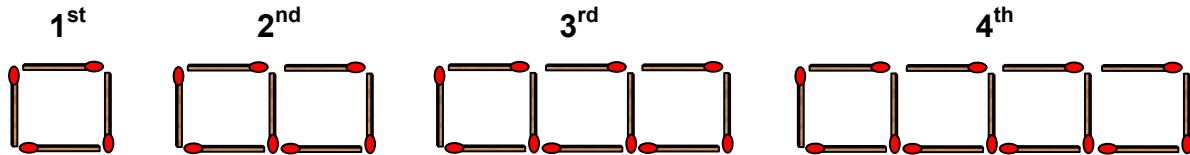


Matchsticks and Marbles



Task A Matchsticks



Look carefully at the matchstick pattern and answer the questions below.

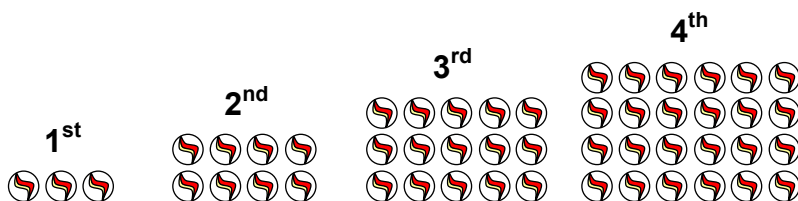
- How many matchsticks would there be in:
 - the 5th pattern?
 - the 6th pattern?
 - the 7th pattern?
- Copy and complete the table below.

Pattern Number	1	2	3	4	5	6	N
Number of Sticks	4	7					

- Use the Nth term to find out how many matchsticks there would be in:
 - the 10th pattern
 - the 20th pattern
 - the 100th pattern
- A particular matchstick pattern in the sequence above is made up of 46 matchsticks. Which number pattern would this be?
- Copy and complete the table below.

Pattern Number	18	31					
Number of Sticks	55	94	100	136	301	667	N

Task B Marbles



Look carefully at the marble pattern and answer the questions below.

- How many marbles are there in the 5th and 6th pattern?
- Write down an Nth term for this pattern.
- How many marbles in the 10th pattern and the 21st pattern?
- A particular marble pattern contains 168 marbles. What is its position in the sequence?
- Draw a graph with the x-axis going from 0 to 6 and the y-axis going from 0 to 25. Plot the sequences from Task A and Task B on the graph.