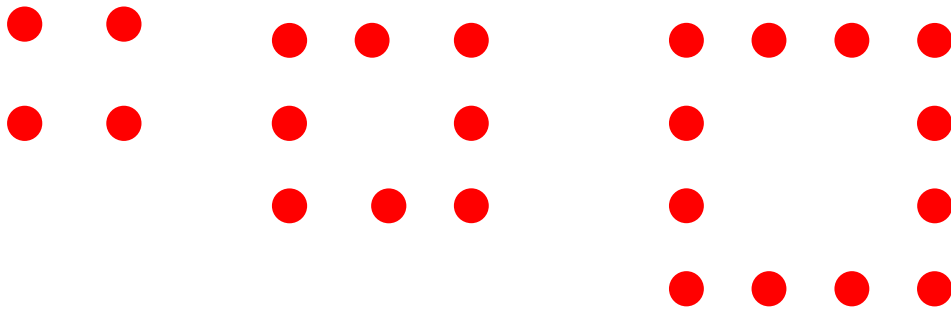




# INVESTIGATION



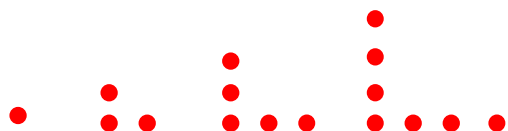
## Dotty Patterns



# MathSphere

## Dotty Patterns

Here is a sequence of dotty patterns:



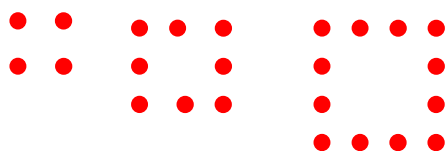
How many dots are there in each pattern?

Can you see a pattern in the numbers?

Ideas to try:

Try some of your own patterns and see what sequences you can find.

You could try something like this:



Try to make some new and unusual patterns.

## **Answer Guide**

This investigation can be tried with children of varied ability and age. Younger/less able children can stick with the investigation as given, making simple sequences and writing down the number patterns obtained.

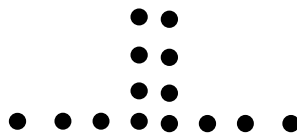
More able children can look at the differences and find the general terms for sequences.

For example, in the second sequence, the terms are:

4, 8, 12, 16 ...

so the general term is  $4n$ , where  $n$  is the number of the term.

More complex sequences may be made up by adding patterns together, for example:



Paper with dotty grids on may help with this investigation.