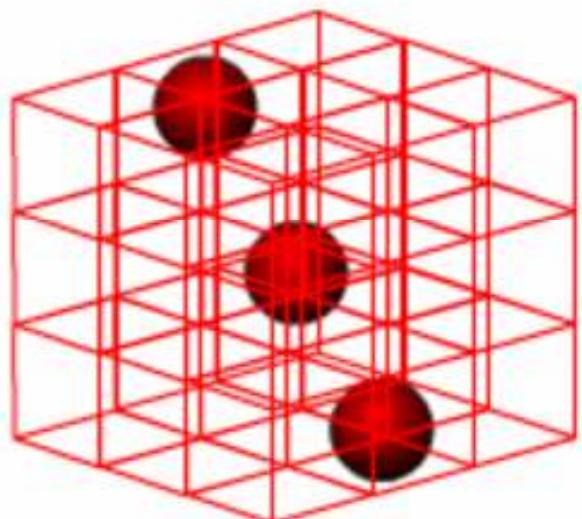


# Marbles in a Box



Imagine a three dimensional version of noughts and crosses where two players take it in turn to place different coloured marbles into a box.

The box is made from 27 transparent unit cubes arranged in a 3-by-3-by-3 array.

The object of the game is to complete as many winning lines of three marbles as possible.

How many different ways can you make a winning line?

Thousands more problems can be found on the NRICH Maths website:

[www.nr rich.maths.org](http://www.nr rich.maths.org)