



The Game of NIM

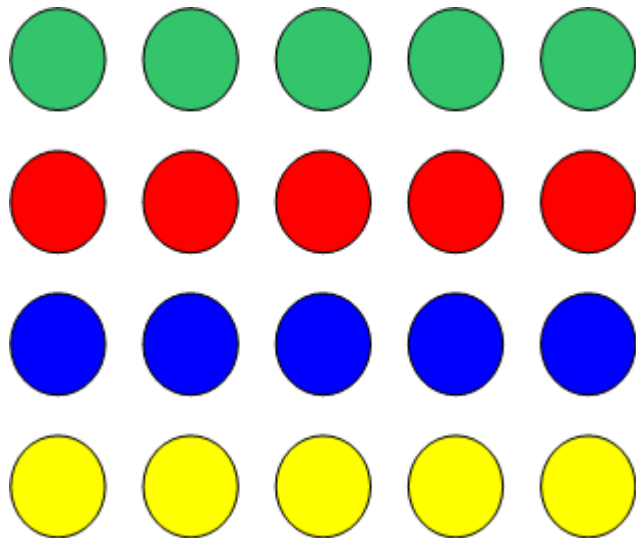
A Game from China

You will need:

- 20 counters (bingo chips, or pennies or shells, anything!)
- 2 players

How you play:

- Put the 20 counters in a group together. You can put them in lines like in this picture.
- Each player can pick up one, two or three counters, but in each round, four counters must be taken away.



For example, in the first round, if your friend picks up two counters, you must pick up two counters. That way, four counters ($2+2=4$) have been taken away that round.

- Keep playing until all the counters are picked up.
- The goal is to not pick up the last counter.

There is a strategy to the game so you can avoid picking up the last counter. It depends on how many counters you pick up.

Once you have discovered the strategy to winning this game, who do you think will always be the winner – the person who plays first or the person who plays second?