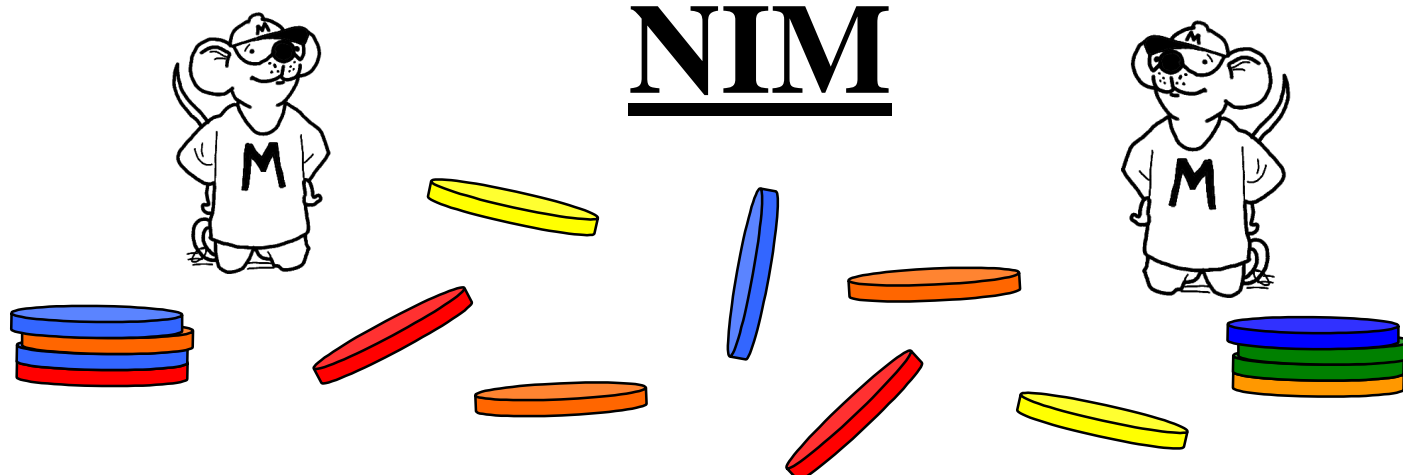


NIM



The game - rules

The game of Nim starts with a number of piles, or heaps of objects. It probably originated in China using coins or matchsticks.

It is a game for 2 players. Each player takes turns in removing one or more objects from a heap. The player who removes the last object wins the game. Whilst the game can be played with any age group, it is most suited to middle and upper juniors because they should be able to work out the strategy to win.

This is definitely a game of strategy, because the person who goes first should be able to win - if they know the mathematics behind the task!

The best way to start is to have one heap of say, 15 counters. Each player may take 1, 2 or 3 counters away.

After a few games players will soon realise that if they are faced with 4 counters left then they will lose the game! On the other hand, if they leave their opponent with 4 counters they will win!

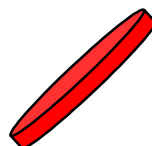
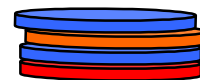
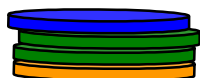
Working back from this they will eventually realise that leaving an opponent with 8 counters, then whatever number is taken will enable 4 to be left the next time....and so on, working in multiples of 4.

The number of counters can change, the number of counters allowed to be taken away can change and the number of piles, or rows can change. Each change will lead to a slightly different strategy.

The game usually known as Nim involves 3 piles of counters with 3, 4 and 5 counters in each pile. It takes much longer to work out a winning strategy for this game. If you want to know how, try searching for 'Nim' on the Internet and find out about binary numbers! No more clues!!

It is a good idea to print the games out on card and laminate.

Nim 1 - Take 15

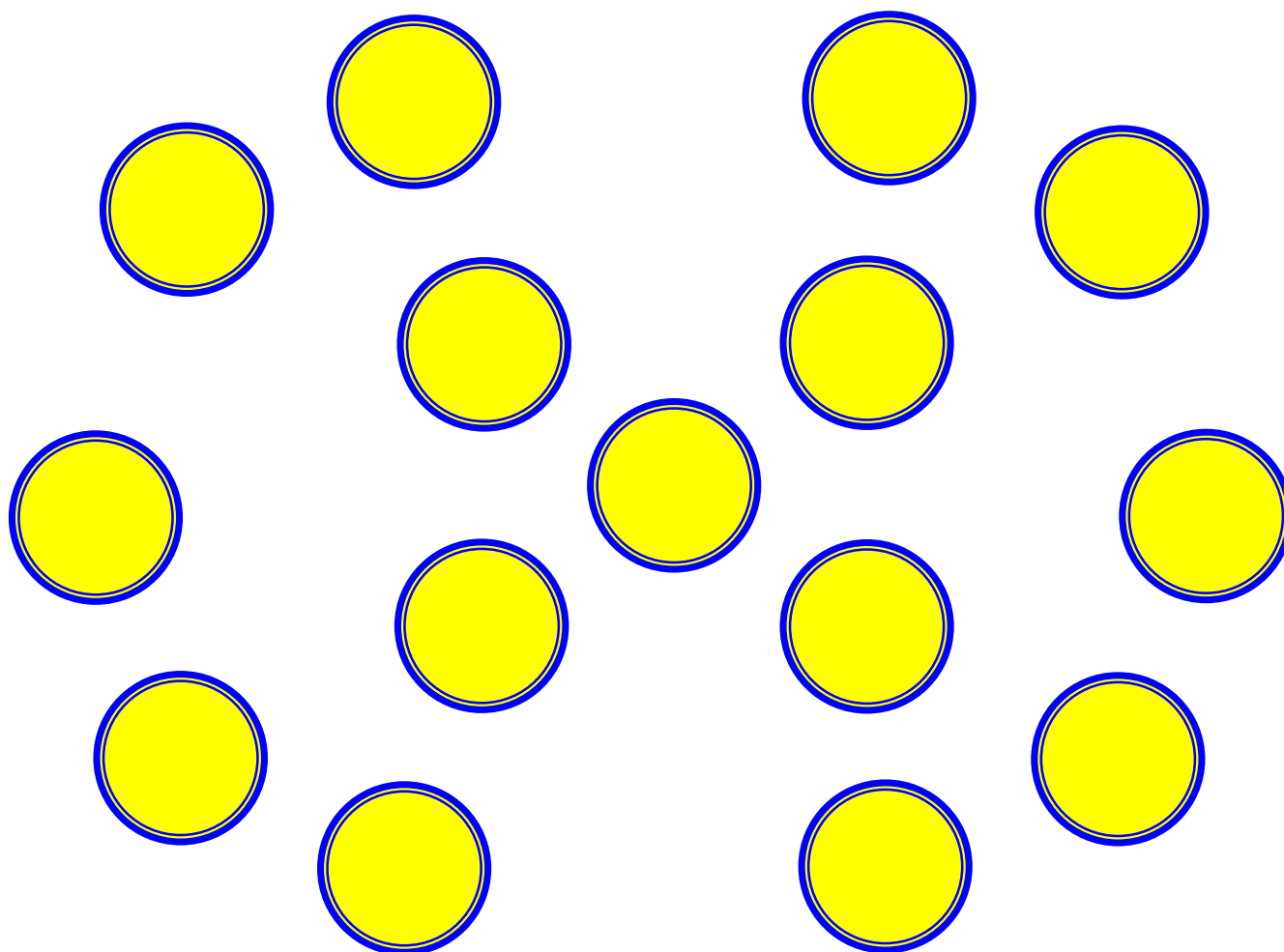


This is for 2 players.

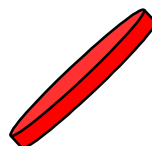
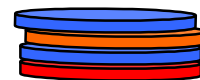
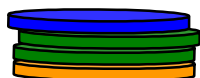
Put a counter on each of the shapes below.

When it is your turn you may take 1, 2 or 3 counters away.

The player who takes the last counter is the **winner**.



Nim 2 - Murder

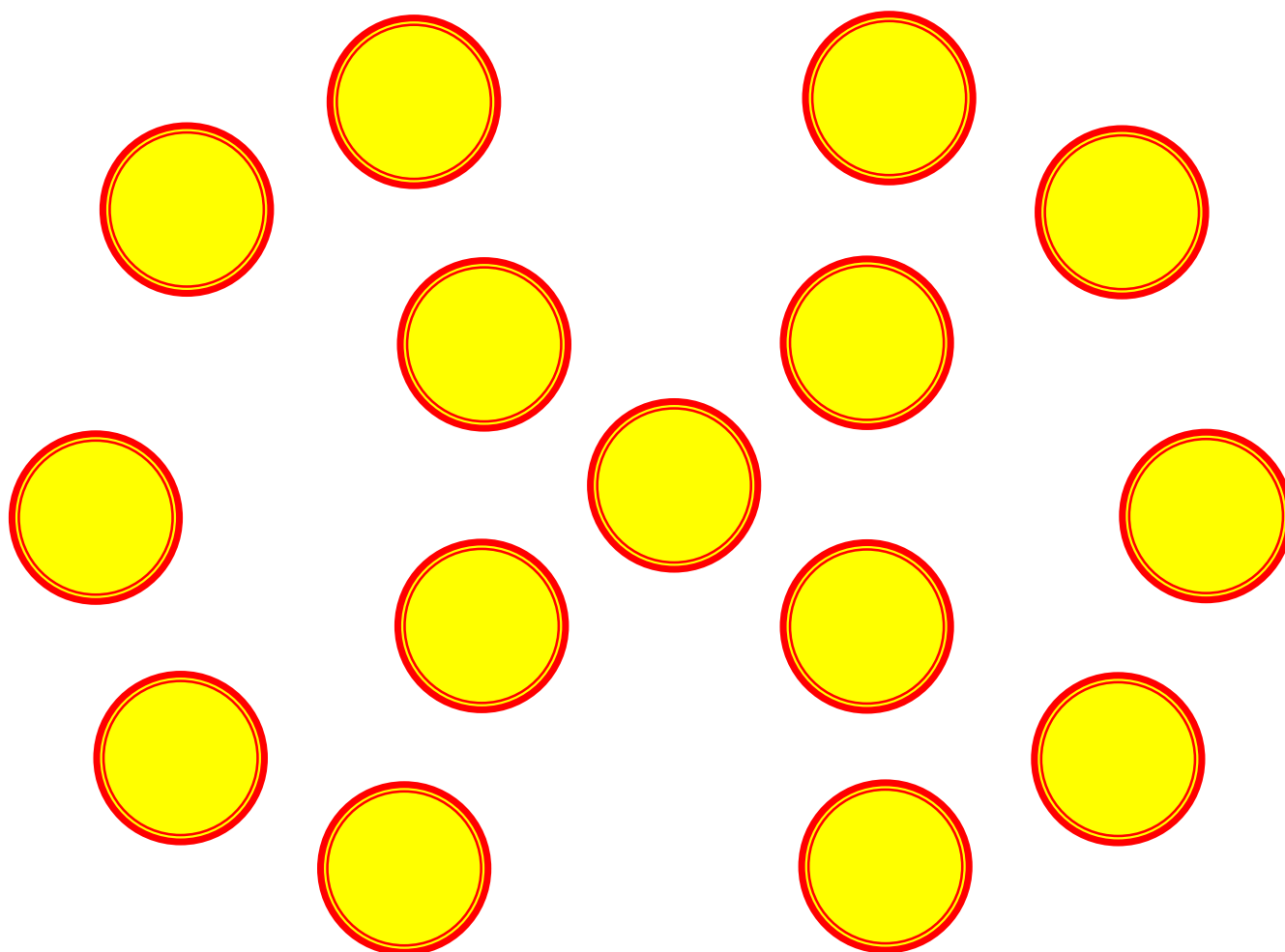


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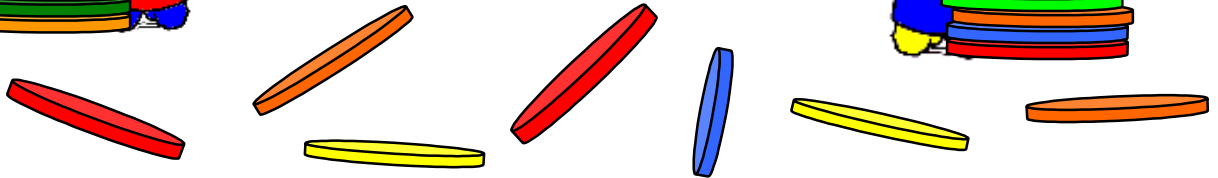
Put a counter on each of the shapes below.

When it is your turn you may take 1, 2 or 3 counters away.

The player who has to take the last counter is the **loser**.



Nim 3 - Take 22

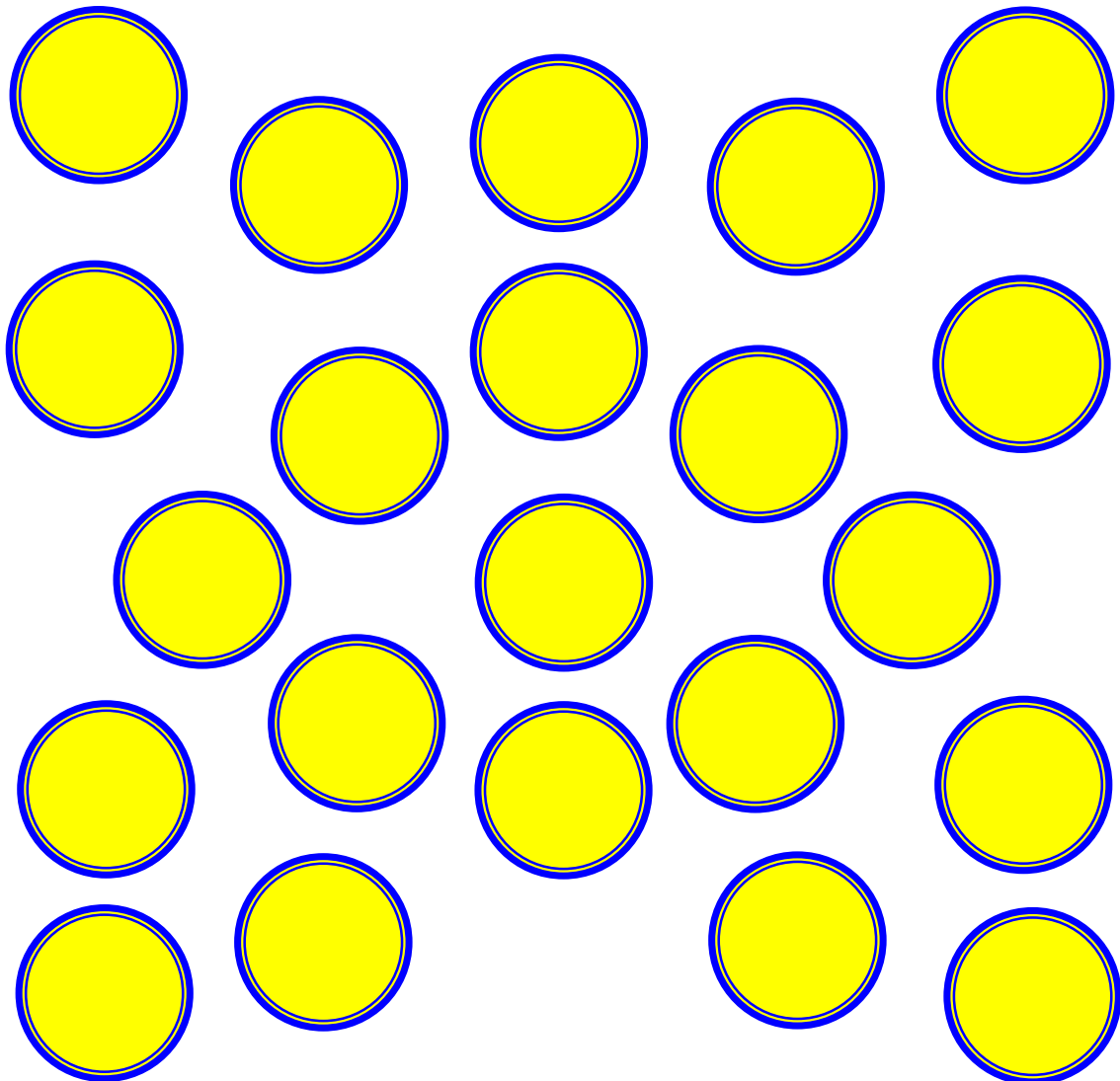


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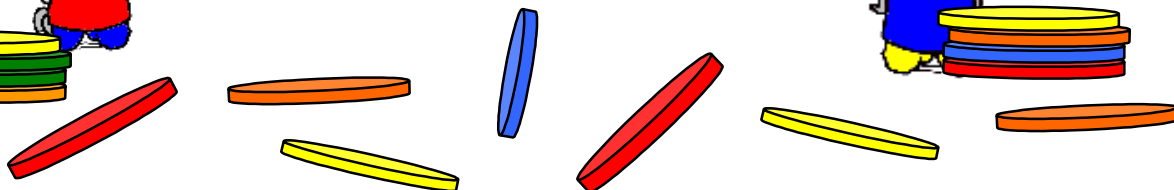
Put a counter on each of the shapes below.

When it is your turn you may take 1, 2, 3 or 4 counters away.

The player who takes the last counter is the **winner**.



Nim 4 - Misere 22

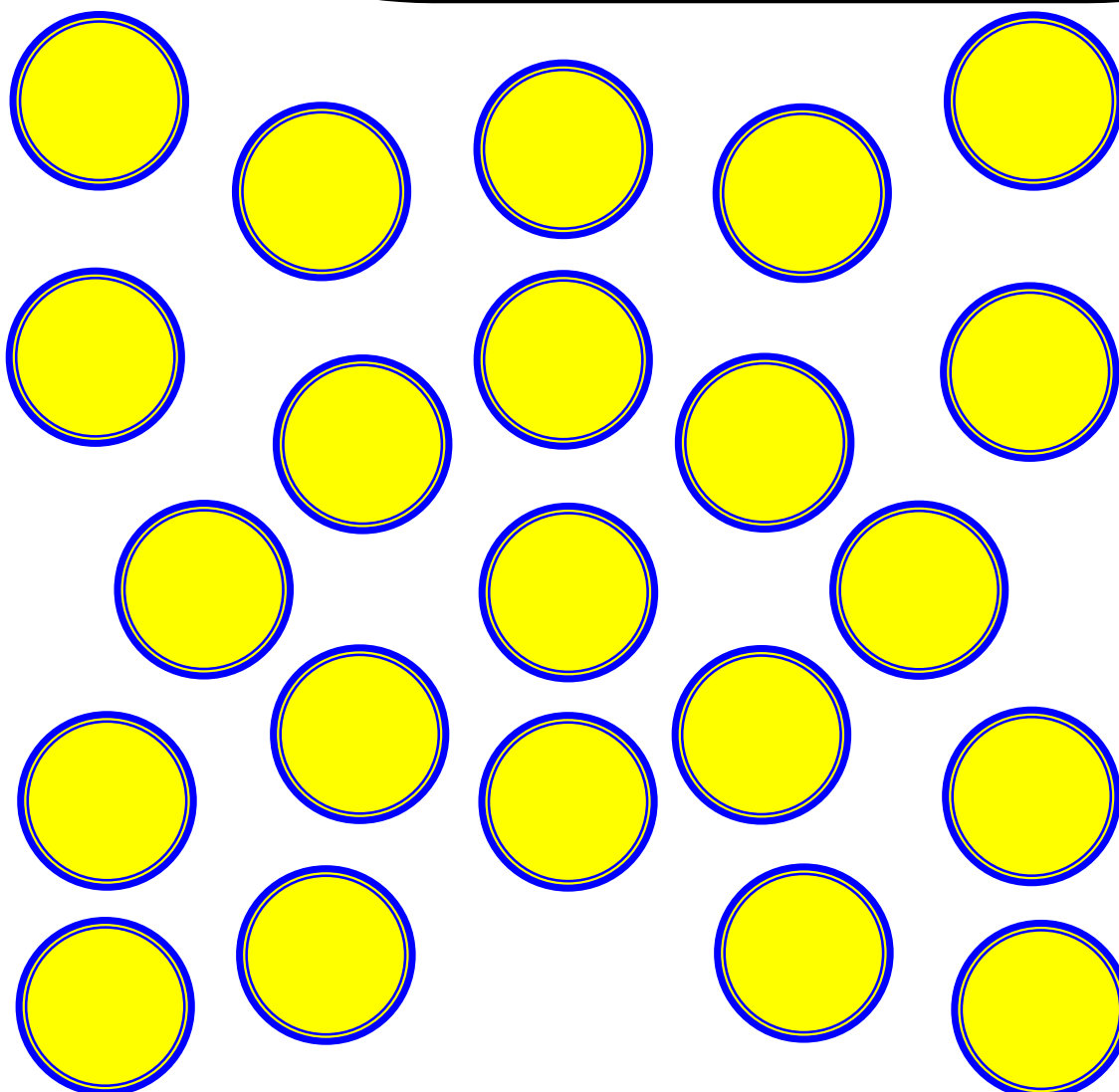


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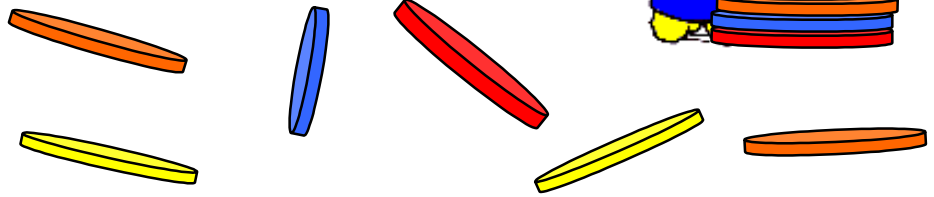
Put a counter on each of the shapes below.

When it is your turn you may take 1, 2, 3 or 4 counters away.

The player who takes the last counter is the **loser**.



Nim 5

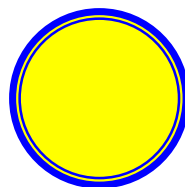
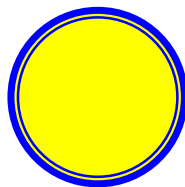
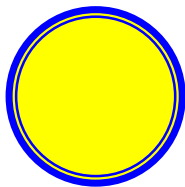
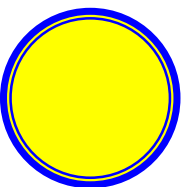
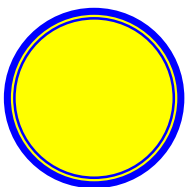
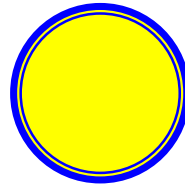
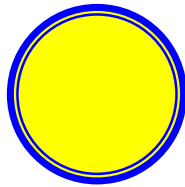
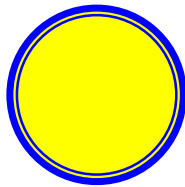
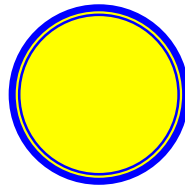
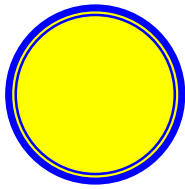
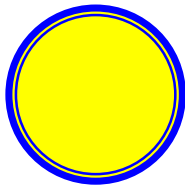
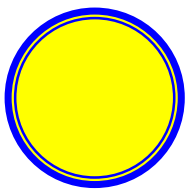


This is for 2 players.

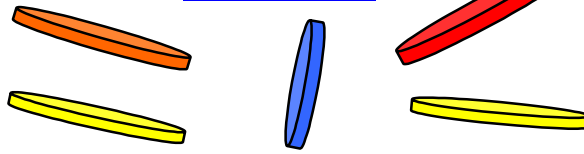
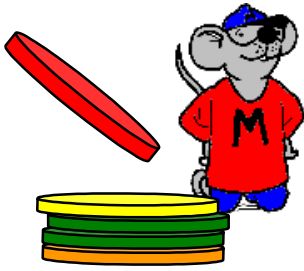
Put a counter on each of the shapes below.

When it is your turn you may take 1, 2, or 3 counters away. **But they must all come from the same row!!**

The player who takes the last counter is the **winner**.



Nim 6



This is for 2 players.

Put a counter on each of the shapes below.

When it is your turn you may take 1, 2, or 3 counters away. **But they must all come from the same row!!**

The player who takes the last counter is the **winner**.

