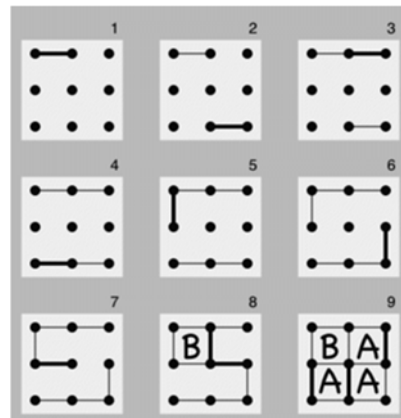


Dots and Boxes. This is a very simple game, suitable for the younger ones. Using graph paper each of two players takes turns drawing line segments connecting two adjacent corners. The goal is to make boxes. The player who is able to make the most boxes wins. The game is easy to play and a little bit of strategy goes a really long way.



See [Wikipedia's article](#) for instructions, strategy and variations.

For most novice players, the game begins with a phase of more-or-less randomly connecting dots, where the only strategy is to avoid adding the third side to any box. This continues until all the remaining (potential) boxes are joined together into *chains* – groups of one or more adjacent boxes in which any move gives all the boxes in the chain to the opponent. At this point, players typically take all available boxes, then *open* the smallest available chain to their opponent. For example, a novice player faced with a situation like position 1 in the diagram on the right, in which some boxes can be captured, may take all the boxes in the chain, resulting in position 2. But, with their last move, they have to open the next, larger chain, and the novice loses the game.^{[2][10]}

A more *experienced* player faced with position 1 will instead play the *double-cross strategy*, taking all but 2 of the boxes in the chain and leaving position 3. The opponent will take these two boxes and then be forced to open the next chain. By achieving position 3, player A wins. The same double-cross strategy applies no matter how many long chains there are: a player using this strategy will take all but two boxes in each chain and take all the boxes in the last chain. If the chains are long enough, then this player will win.

The next level of strategic complexity, between *experts* who would both use the double-cross strategy (if they were allowed to), is a battle for *control*: An expert player tries to force their opponent to *open the first long chain*, because the player who first opens a long chain usually loses.^{[2][10]} Against a player who doesn't understand the concept of a sacrifice, the expert simply has to make the correct number of sacrifices to encourage the opponent to hand him the first chain long enough to ensure a win. *If* the other player also sacrifices, the expert has to additionally manipulate the number of available sacrifices through earlier play.

In [combinatorial game theory](#), dots and boxes is an [impartial game](#) and many positions can be analyzed using [Sprague–Grundy theory](#). However, Dots and Boxes lacks the [normal play convention](#) of most impartial games (where the last player to move wins), which complicates the analysis considerably.^{[2][10]}

Connect 4 with gravity

Draw a 7 by 7, use X and O if you want; don't forget gravity.

Strategy aside from setup “auto-win situations”?

Sinkhole- 2 player or multiplayer game. The last circle is a sinkhole and the numbers adjacent to that circle count against a player. Play to a finite and arbitrary value.

