

Culica News Release: Puzzles



There are many puzzles for the Culica (as well as competitive, social games). These puzzles are not variants (though variants do exist) but are completely distinct from one another, with different kinds of problem solving and game play. Puzzle collectors comment about the Culica that it is extremely unusual that a single game is flush with so many completely different

kinds of puzzles.

What is the Culica?

Culica® is a new game that was launched in mid 2011. Culica is a hand-held 3D game, in which red, yellow, green and blue pegs are placed on a cube to achieve various goals (e.g. *no* pegs of the same colour can touch).

Culica has over thirty games and puzzles, and counting, that can be played on it, each has completely different game play. The game can be played by yourself or with competitively with friends.

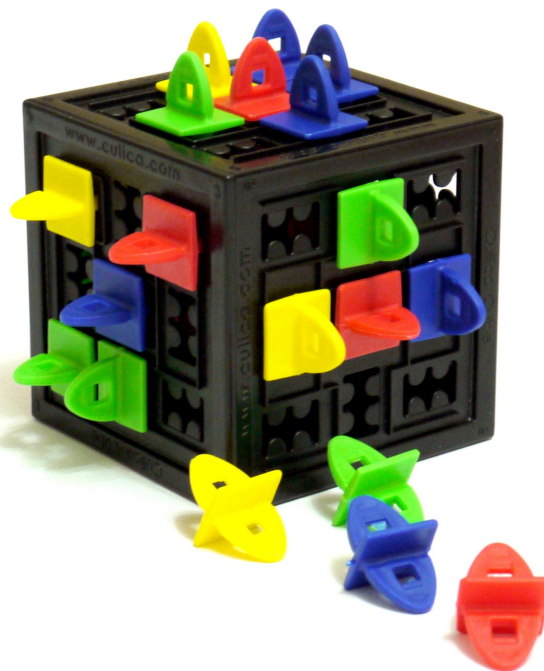
The Puzzles

There are two main types of solo game for the Culica, those with a random element, where each game is different and games where the experience is exactly the same for everyone. It is the latter, which we focus on here, people can challenge one another to solve it, perhaps smug in having solved a certain puzzle themselves ;-)

Discussed below are puzzles that I think of as *masterpieces*. What I mean by that is that the puzzles are minimalist in being very easy to state and play, but they are profoundly deep and challenging to solve. Sometimes surprisingly so, but it's fun trying.

With Culica puzzles it's not just a case of succeeding or failing: even if you don't complete the puzzle, you can award yourself a score based on the number of pegs placed (or removed) correctly, and attempt to beat your high score next time.

Another curiosity is that James Eadon, the inventor, creates the rules for a puzzle first, *then* tries to solve them, not knowing if there is a solution. This is true of all of the puzzles below except for CuRing rules, where the solution came first. James solved all of the puzzles except for CuFrog (which was first solved by Natalie Moseley), CuKnights (first solved by a Martin from DeltaRail) and CuSol (James does not know if there is a solution where just one peg remains). Finding a solution to a puzzle he invented was always a thrill. In the case of CuLoops James was surprised to find that there is no solution to completely cover the cube, which is actually fascinating in its own right. James' conjecture was proven by an artful mathematical argument by a Dutch puzzle collector.

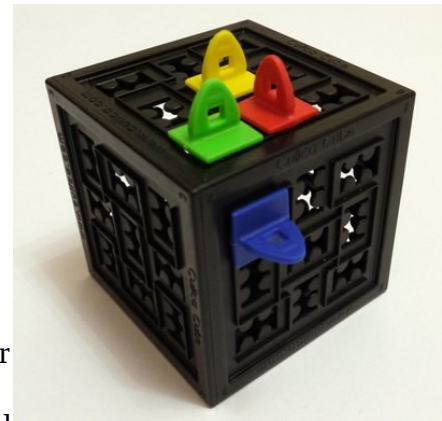


CuColours

Object: Put as many pegs into the cube without any pegs of the same colour touching, even diagonally.

CuColours is the archetypal Culica puzzle! It's possible to completely cover the Culica with pegs and solve this puzzle, but it's harder than you think – there are only four colours. You get off to a flying start, but get into difficulties later on :-)

There's an easier version for kids – where pegs of the same colour touching diagonally are allowed. Also there are variants, such as CuColours Twins, where you place pegs in side-by-side pairs, and no pairs of the same colour may touch.



CuNigrogen

Here colours do not matter. You need to put pegs on the cube such that each peg has exactly three side-by-side neighbours. Pegs touching diagonally are also allowed but these do *not* count as “neighbours”.

This puzzle is really tricky to solve for most people, and has exactly two distinct solutions, with different numbers of pegs. Interestingly, James found the more complex solution first. That there are exactly two solutions was conjectured by James and later verified by a computer search by a Dutch puzzle collector.

CuWizard

This one is a bit like Sudoku but with four colours in lines. A “wizard” is a straight line of connected pegs, with two pegs on one face and two on the next. *The picture, right, shows two wizards.*

To win, completely cover the cube such that every single “wizard” has one of each colour (red, yellow, green and blue) in every direction.



CuFrog

Put pegs on the cube so that there is a gap (an empty slot or a slot with a peg in it) between the last peg placed and the new one. The “hops” are straight, not diagonal. Get as many pegs into the cube as you can. It is possible to get all of the pegs into the cube, but this is really difficult! A variation is CuNights, where each move is a chess knight move instead of a hop.

CuLoops

A loop is a band around the Culica consisting of 12 connected pegs in a straight line. There are 9 loops in total, three around each axis. The challenge is to place as many pegs as possible so that no more than three pegs of each colour appear in each loop. You are allowed two empty slots.

The picture, right, shows two loops, which stretch around the cube.



CuMadness

Each red peg has to be next one – and only one – yellow. In a similar way, yellow must be next to one green, green next to one blue and blue next to one red peg.

This Culica puzzle is definitely for logic-fans and feels very much like a “logic problem” that you see in magazines.

CuSol

Cover the cube with pegs (colour does not matter). Remove a peg. Then “take” pegs in the same way as Peg Solitaire, until you are unable to remove any more pegs. James does not know what the most pegs that can be taken is. Of all of the puzzles, this one is the least original, in the sense that it is an adaptation of an existing puzzle idea.



CuRing

No two pegs of the same colour can be closer than 4 spaces away: straight-side-by-side. In other words, at least three spaces (whether empty slots and/or slots occupied with a peg) should exist between same-colour pegs. You are allowed six empty slots.

Conclusion

There are many more Culica puzzles, both invented and yet to be invented, but these eight stunning puzzles should be plenty for a single news release! With these puzzles alone, buying one Culica is equivalent to buying eight original puzzles. We expect that Culica puzzles will become famous (infamous?) in the puzzle world. On top of that, Culica does so much more besides, like competitive games.



References

The puzzles and other games published for Culica so far (30 and counting!) are here <http://www.culica.com/culica-games-rules-menu>

See also: a Culica blog post with more pictures:

<http://www.culica-blog.com/culica-blog/entry/nuremberg-toy-show-culica-meets-the-world>

www.culica.com

www.culica-blog.com/culica-blog

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