

# Lab Rats

## A Solitary Confinement game for the piecepack by Mark A. Biggar

Version 1.1, July 2004

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1 player - 20 min

### Object

Build a maze and then navigate your rat (pawn), from the start of the maze to out its exit, using a limited number of moves.

### Building the Maze

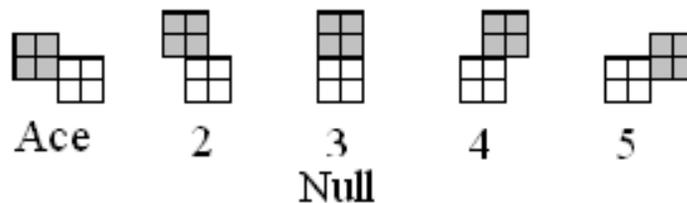


Diagram 1. Maze Building

First you must build a maze out of all 24 tiles, grid-side up. Start by placing a tile in front of you. The edge of the tile farthest from you is called the leading edge of the maze. Tiles are added to the leading edge by rolling a die and placing a tile according to the diagram above based on the result of the die roll. Note that both the blank and the 3 result on the die result in the same placement of a tile. The white tiles represent the previously placed tile, with the thick line the leading edge. The grey tiles are the newly placed tile, with the thick line the new leading edge. A tile placed with a roll of an ace or 5 results in the leading edge rotating 90 degrees left or right respectively.

No tile should be placed to overlap another tile or to touch another tile except the tile with the current leading edge. Any die roll that would cause such a placement must be re-rolled. If you get stuck, such that no new tiles can be placed, back out tiles until you can continue. The maze is complete when you have placed all 24 tiles. Note that the maze can take up a large table area.

### Navigating the Maze

Choose a pawn to represent your lab rat. Place two other pawns, off the maze at the leading edge of the last tile placed, to mark the exit of the maze. Place your lab rat on either of the two squares opposite the leading edge of the first tile. Mix all 24 coins thoroughly suit-side-up with out exposing the number side of any coin. Form three stacks of eight coins each still suit-side-up and then

turn each of the three stacks over to expose the number side of the top coin of each stack.

Your rat moves orthogonally like a rook in chess. You may move it the number of spaces shown on any of the three coins on the top of the three stacks. Coins showing ace through 5 represent moving 1 to 5 spaces respectively. A coin showing the null value represents moving any number of spaces the player wishes. When you move your rat place the chosen coin on the square under the rat before moving it.

If you are unable or unwilling to use any of the three coins, then choose one of the three coins and place it under your rat (possibly stacking the coin on any coins already there), but do not move your rat. This coin is lost and can not be used to move your rat.

You may back up your rat using the following rules. If your rat is not sitting on a coin you may move your rat back to the previous coin used for movement. If your rat is sitting on a coin, you may pick up that coin and put it back onto any one of the three stacks. You may not put a coin back on a stack that already has eight coins.

### **Winning**

You win the game by moving your rat out the exit of the maze. This does not need to be by exact count, any move past the exit works. If you run out of coins and can't exit the maze even after backing up, you have lost.

### **Advanced Harder Version**

For a much harder version of the game, do not use the backing up rules.

### **Design Notes**

1. The hardest part of this game was figuring out a way to prevent the *inward spiral of death* when building the maze. Unfortunately, I never did come up with a good set of rules for that, so I punted, and just said that the player could back out tiles as he saw fit to fix things.
2. It is still possible of construct a maze that no sequence of coins will navigate, but that appears to only happen about 1 time in 50.
3. The first version of this game used coins drawn from a bag for movement. The player started by drawing three coins, and then either using one for movement or permanently discarding one and then drawing a replacement. This turned out to be too hard, as it was too easy to be forced to discard coins you would need for later. So I tried discarding back into the bag. That was too

easy, as a player could just recycle coins until he got the one he wanted. I tried several other methods, until I came up with the three stacks and the backing up rules, which made the game just about right.

### **History**

20031026	mab	0.5	Solitary Confinement contest entry version
20040113	mab	1.0	Post contest version for <a href="http://www.piecepack.org">www.piecepack.org</a>
20040730	mab	1.1	annual update and added design notes

Thank you for playing my game. Please report rules problems or variant suggestions to [mark@biggar.org](mailto:mark@biggar.org).

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