

# Royal Lock

By Michael Gray

## **Abstract**

*Royal Lock* is a small card game where 2 players cooperate to get any combination of 3 Kings, Queens, and Jacks in a row on a 3x3 grid. Players are meant to carefully consider the risks of switching out cards vs locking them in.

## Goal

Lock in any combination of Kings, Queens, or Jacks 3 in a row, column, or diagonal before there are 3 empty spaces in a row, column, or diagonal.

## Rules

Materials:

1. A deck of cards
2. 2 markers to represent the players' positions.

Setup:

1. Separate the deck of cards into red and black cards. Clubs and Spades in one and Diamonds and Hearts in the other.
2. From the black cards, place 9 in a 3 x 3 grid.
3. Place both markers on the middle card on the grid.

Order of Play:

1. A player can take up to 3 actions for their turn.
2. Once a player has completed their actions, 2 cards are drawn from the red deck. If their values match any of the cards on the grids then the following happens:
  - a. If the matching card(s) is unlocked, it is removed and put into the black discard pile.
  - b. If the matching card(s) is locked, it is unlocked.
  - c. If both of the drawn cards are the same value, any same value black cards are removed to the discard pile, whether they are locked or not.

Actions:

1. Move: move your player horizontally or vertically (not diagonally) by one space.
2. Lock/unlock: Turn a card sideways to lock. If it is already locked, turn it upright to unlock. *Only 3 cards may be locked at once.*
3. Remove card: If a card is unlocked, the player can discard it, leaving the space empty.
4. Fill empty space: If the player's current space has no card, the player can use an action to fill it with a card from the black deck.
5. Reshuffle: The player can reshuffle the black cards including those that have been discarded.

Note: The players lose if there are 3 empty spaces in a row *at any time*. This includes in between actions when a player tries to remove a card and replace it with another.

## Design Process

*Royal Lock* is a small strategy game meant to be played in 5 minutes. It is built around the idea that players would have to constantly adapt to an ever-changing board to complete a task.

The game started out as a 3x3 grid of cards. Players would take turns using 3 actions to either move their game piece, remove a card, or fill an empty space with one. The goal of the game was for the players to work together to create a row, column, or diagonal of any combination of Kings, Queens, and Jacks while keeping the board from ever having 3 empty spaces in a row.

To implement a system for creating empty spaces, 2 cards would be drawn from the remaining deck at the end of each player's turn. If there were any cards of matching value on the board, they would be removed. This was done to create a constant source of adversity that would force players to adapt their approach every turn.

There were several problems with this initial build. The players had no way of keeping cards on the board, meaning that any draw could take away the Jack/Queen/King that was already in position. The players had to rely on luck to get 3 in a row. To combat this, the locking/unlocking mechanic was added. As an action, players could turn a card sideways and lock it. If the card was drawn, it would not be removed, but it would be unlocked. This mechanic was also added as part of the win conditions for the game. Now, cards had to be locked to count as a part of the 3 in a row.

Another issue was that draw chance for any given card was not equal. Since some of the cards were always on the board, they would always have a slightly smaller chance of being drawn than others. There could even be a situation where all four suites of one value could be on the board at a time, meaning the players would have to remove them. To fix this, the red cards (hearts and diamonds) were separated from the black cards (spades and clubs). The black cards would be used to fill in the board while the red cards would be drawn to remove them. This ensured that any value had an equal chance of being drawn whether it was on the board or not.

The third issue to fix was the possibility that all the face cards could potentially be discarded at one time. This would mean that in order to gain access to them, players would have to use up the remaining black cards to even have the possibility of victory. The fix was to add an action that would allow the players to reshuffle the black cards.

One final implementation was to limit the number of cards that could be locked to a maximum of 3. If the players could lock as many cards as they wanted, then the optimal strategy would be to lock them all as soon as possible. This would make it very easy to replace only the cards the players wanted replaced and there would be almost no empty spaces and thus no challenge.

## Strategy

*Royal Lock* is designed to create situations where the players have to evaluate which actions through a variety of criteria. Player positions, empty space positions, which cards are locked all factor into the choices the player has to make.

The game utilizes Risk vs. Reward and limits the players actions to create a need for strategy. With only 3 moves per turn, the player has to consider what actions are the most important. Does this empty space need to be filled right now? How many ways could there be 3 blank spaces in a row if I leave this one without a card? Should I lock this card to keep it on the board or should I risk it being drawn after my turn?

