Vector Battle
Mr. Merrick

Vector Battle is a variant of the game Onitama that uses vectors for movement.

Required Components

- 14 pawns (2 master, and 6 student)

- 24 vector cards

- Game board

This document contains a printable version of all game components with the exception of game pawns.

Setup

Each player places their king pawn on their temple (star space), and 6 student pawns on the 3 squares on either side of the master. Shuffle the 24 vector cards and deal 3 vector cards to each player, and 2 additional vector cards adjacent to the board. All cards should be positioned face up as shown below:
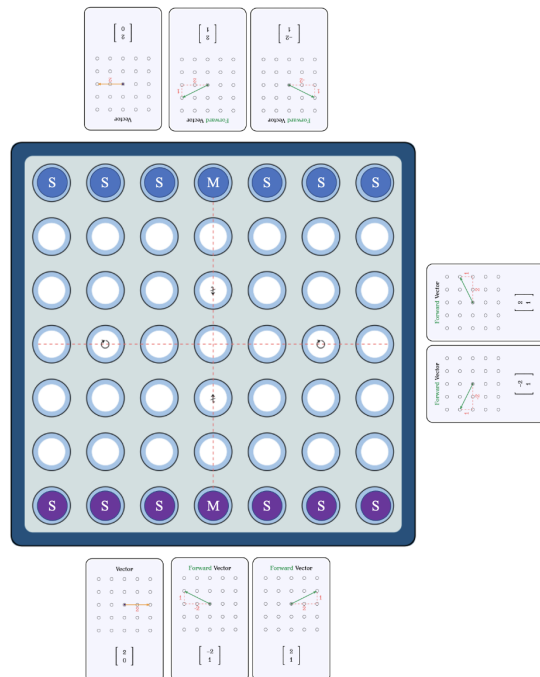

The remaining vector cards will not be used for the duration of the game.

Gameplay

The player who wins a thumb war may go first. On a players turn they need to follow two simple steps:

1. **Movement**: After examining their vector movement cards a player applies any sum or difference of two of the cards to the position of any of their pawns. An example of a difference is shown below:
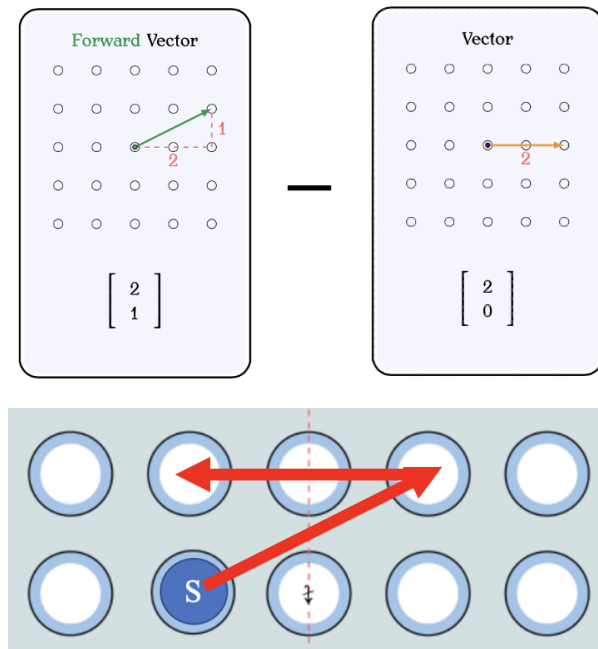
If your pawn lands on a space occupied by one of the opposing pawns, it is 'destroyed' and removed from the game.

2. **Exchange Vectors:** The two vector cards used are replaced with the additional cards adjacent to the board as shown below:
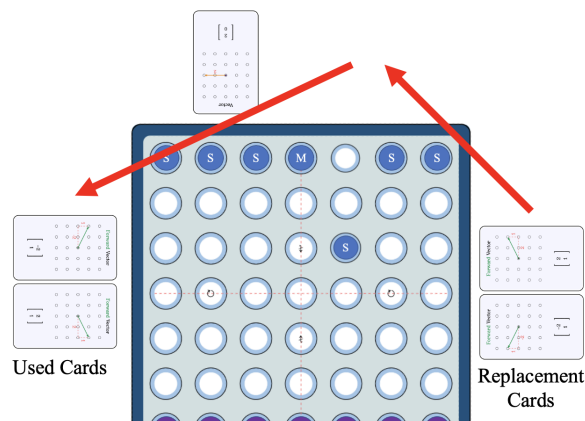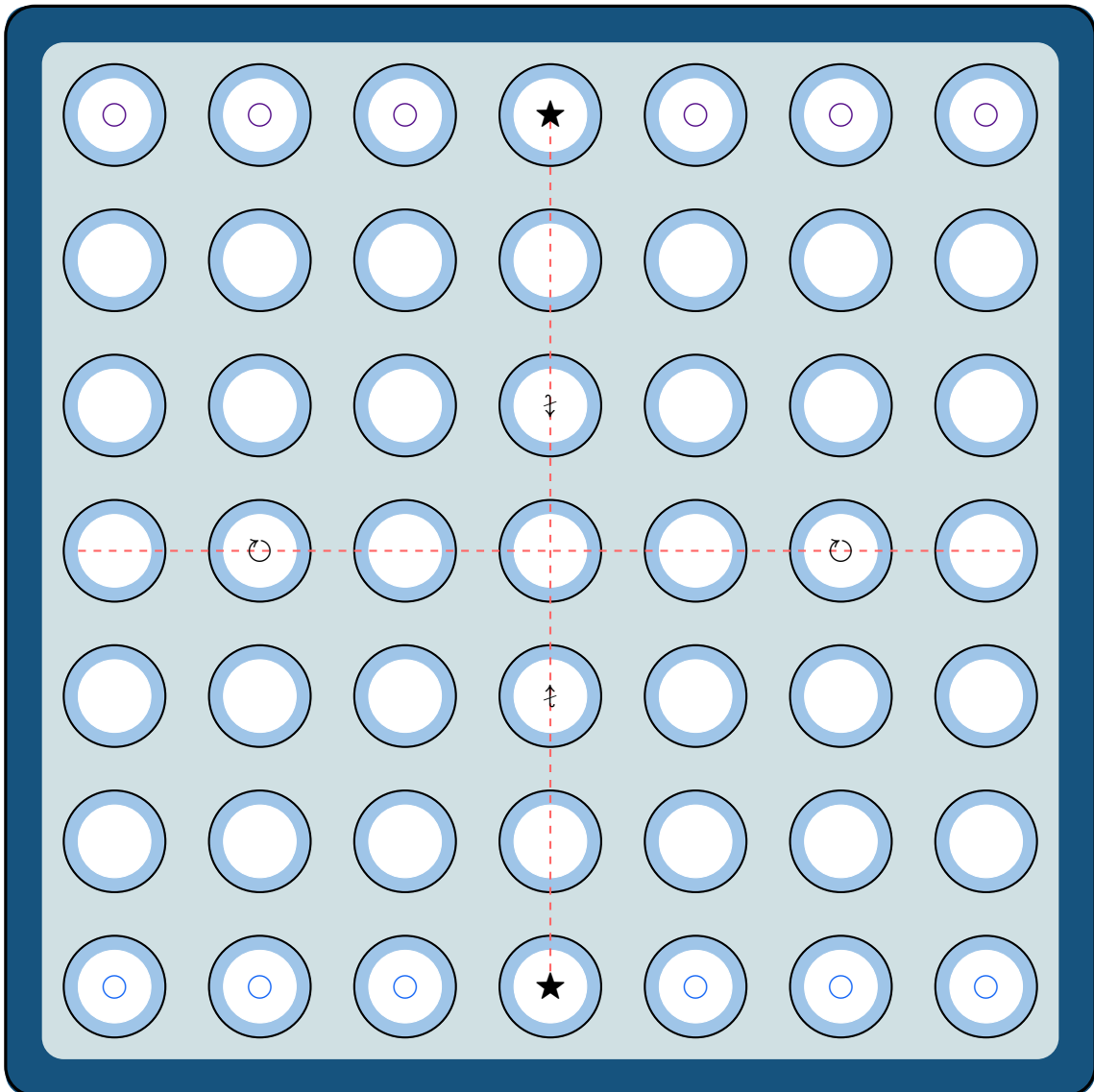

The opponent's turn follows the same two steps until the game is won.

Winning the Game

The game is won instantly in either of the following two ways:

1. Capturing the opposing king pawn.

2. Reaching the enemies temple (star space) with your **king pawn**.

Game Materials

Forward Vector

$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$

Forward Vector

$\begin{bmatrix} 0 \\ 1 \end{bmatrix}$

Forward Vector

$\begin{bmatrix} -1 \\ 1 \end{bmatrix}$

Forward Vector

$\begin{bmatrix} 1 \\ 2 \end{bmatrix}$

Forward Vector

$\begin{bmatrix} 0 \\ 2 \end{bmatrix}$

Forward Vector

$\begin{bmatrix} -1 \\ 2 \end{bmatrix}$

Forward Vector

$$\begin{bmatrix} -2 \\ 1 \end{bmatrix}$$

Forward Vector

$$\begin{bmatrix} 2 \\ 1 \end{bmatrix}$$

Forward Vector

$$\begin{bmatrix} 2 \\ 2 \end{bmatrix}$$

Forward Vector

$$\begin{bmatrix} -2 \\ 2 \end{bmatrix}$$

Vector

$$\begin{bmatrix} -2 \\ 0 \end{bmatrix}$$

Vector

$$\begin{bmatrix} -1 \\ 0 \end{bmatrix}$$

Backward Vector

-2
-1

$$\begin{bmatrix} -2 \\ -1 \end{bmatrix}$$

Backward Vector

-2
-2

$$\begin{bmatrix} -2 \\ -2 \end{bmatrix}$$

Backward Vector

2
-2

$$\begin{bmatrix} 2 \\ -2 \end{bmatrix}$$

Backward Vector

0
-2

$$\begin{bmatrix} 0 \\ -2 \end{bmatrix}$$

Backward Vector

1
-2

$$\begin{bmatrix} 1 \\ -2 \end{bmatrix}$$

Backward Vector

-1
-2

$$\begin{bmatrix} -1 \\ -2 \end{bmatrix}$$