ALGORACING

Rules of the Game

2 to 4 Players
6+, 10+ Years
20–30 Minutes

ENG

Video instructions
www.thebrainyband.com

Automated rovers investigate the surface of uncharted planet. They are searching for life samples! To operate the rovers, the players have to create very precise algorithms. Delivering life samples to the lab won't be easy, because the samples can be carried off by competitors!

Contents:
- Two-sided Gameboard.
- 5 Cardboard Hill Blocks.
- 52 Command Cards.
- 4 Rover Figurines.
- 4 Base/Lab Tokens.
- 20 Life Sample Tokens.
- Illustrated Rules.

Algoracing is an unusual and transformable 3D-race game. You can change the location of hill blocks whichever way you want — the game can have hundreds of different game fields! Complexity of the game is also easy to change, as the set includes the components for two versions:

- **Basic rules:** The 6x6 gameboard with large squares is good for learning the game principles, and for playing with kids under 10. Use the yellow side of the gameboard and two blocks with large squares.
- **Full rules:** The 9x9 gameboard is good for experienced players. Use the red side of the gameboard and three blocks with small squares (two low ones and one high one).

Objective of the Game

The players take turns making algorithms out of their cards. The players' rovers on the gameboard execute commands in accordance with these algorithms. In this way, the players have to collect the life sample tokens and deliver them to the labs. For each delivered token a player gets bonus points. Whoever is the fastest to collect the necessary amount of points, wins.

BASIC RULES

Game Setup

1. Place two hill blocks (with large squares) anywhere on the **6x6 gameboard.**

Fig. 1. Examples of 6x6 gameboard setting

2. Select 12 life sample tokens, 3 of each type. Place the tokens face down, shuffle them and place on the special marks on the gameboard including the hill blocks. Some of the marks may remain empty.
3. The players select the colour of their base and rover (should be the same) and determine the order of turns. Now, starting with whoever goes last, each player selects a corner of the gameboard for his or her base and puts the base token there.

Fig 2. Rover and token

4. Place all 4 square base/lab tokens. The rovers have to face any side except the "wall."
5. If only 2 or 3 people are playing - extra tokens of bases are also placed on the field in free corners, all bases are needed in the game.
6. Remove from the card deck all the cards of ×2,×3 cycles and teleport cards — these are not required for the basic rules gameplay. Deal each player **five cards.** The players take the cards without showing them to others.

Fig 3. Preparing for the game

Player's Actions During Each Turn

1. The player takes 1 to 3 cards with commands and places them in a row.
2. The player moves the rover on the gameboard and executes other commands in accordance with the algorithm he created.
3. The laid-out cards are moved to the discard pile, the player takes new cards for a total of five, and the turn passes to the next player.
4. The player may forego his turn by saying "I pass" — this allows him to replace any number of cards in his hand (moving them to the discard pile and taking new ones from the card deck).

Fig. 4. Overall view of the game process

Command Cards

Step forward. The rover moves one square forward if there are no obstructions. Obstructions include border of the gameboard, border of the block, stone wall, another rover, or realizing everything is futile.

All the way forward. The rover goes forward until it meets an obstruction or a life sample.
In encountering the obstruction, it stops on the previous square. On encountering the life sample, it stops on ITS square and picks the sample up.

Jump. The rover moves one square forward. If there's a wall in front of it, it jumps over. If it stands on the border of the block or in front of it — it jumps off or on the block.
It's impossible to jump on or off the high (two-storey) block.

Turn, U-turn. The rover turns right/left or makes a U-turn, but remains on its current square.

Movement of Rovers and Collection of Life Samples

When the rover reaches a square with a life sample, it picks it up. But this is only a part of the mission — to earn the bonus points, the rover has to deliver the sample to the lab. The rover's lab is the base with its colour and with an icon on it (in the basic rules of the game, any base can be any rover's lab).

1. The rover can only move forward. It cannot move sideways or go backwards.
2. The rovers are equipped with a smart self-preservation system, and so if the algorithm contains a command instruction that cannot be executed (for example, "step forward" when the rover is facing the wall or stands on the precipice), such command is skipped, and the rover moves to the subsequent command.
3. After reaching the square with life sample token, the player picks up the token and places it in front of him face down. It's impossible to learn what type of life sample it is without delivering it to the lab.
4. It's possible to pick up several life samples in a row without visiting the lab. Just make sure you're carrying no more than three, that's the rover's maximum capacity.
5. When the rover carrying the samples reaches the lab (base of any color), the player turns the "onboard" sample tokens face up, and receives the bonus points for them.

Fig. 5. Tokens with life samples

6. The execution of the algorithm isn't interrupted if the rover picks up a sample or reaches the lab, so it can actually collect two samples in one turn.
7. If in executing the algorithm, rover A encounters rover B, it stops on the square in front of it (as if it was a wall), and, if possible, continues to execute the subsequent command instructions of the algorithm.
   - As compensation for the created obstruction, rover B gives rover A one life sample (provided that it has at least one sample onboard, and rover A has less than three samples onboard). The token is passed face down.
   - After that, rovers A and B can no longer receive such compensations from each other until at least one of them moves to a different square from the position of their encounter.

End of the Game, Counting the Points

The game is over when one of the players wins by collecting 7 points, or by collecting the most points in case all of the life samples were picked and delivered to the lab.

If the card deck runs out in the course of the game, the discard pile is shuffled over and turned into the card deck.

The players receive 2 points for each new type of life sample delivered to the lab, and 1 point for each subsequent life sample of the same type. If the player delivers 2 yellow samples and 1 blue sample, he'll receive 2 points (first yellow) plus 1 point (second yellow) plus 2 points (first blue).

COMPLETE RULES

Overall, the game process is similar to the basic rules, but there are additional elements and options that make the game more intense and variable.

Command Cards

Add the cycle and teleport cards to the card deck.

Cycles x2 and x3. These are placed above the cards of the main algorithm. The cycle card can be placed either above one command card (vertically), meaning that this particular instruction will be repeated twice or thrice, or above two command cards (by laying it sideways), and then the two commands will be repeated two or three times one after another (for example, if Cycle x2 card is placed over command A and command B cards, the rover should execute A-B-A-B).

Teleport. By the impulse of the teleport, the player can move the competitor's off-road vehicle to the base or pull up life patterns to himself. The rover sends the teleport impulse ahead. The impulse affects the first object on its way, either another rover or life sample. The impulse can go through the walls, but it only works on the level of the rover (which means it doesn't "jump" up and down the blocks).

Fig. 6. Teleport

1. If a rover stands in impulse's way, it's teleported back to its own base. After teleportation, the rover retains the direction of movement it had on the gameboard.
   - If the teleported rover had some life samples onboard, they all remain on the square, from which it was teleported to the base (accordingly, the player places them on this square of the gameboard).
   - If the base is occupied with another rover at that moment, it cannot be used, and the "teleport" command doesn't work.
2. If the impulse hits a life sample, the sample is teleported one square towards the rover.
   - If there are several samples on the square, they are all teleported.
   - The samples can teleport through walls.

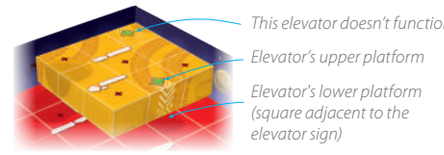
Game Setup and Additional Gameboard Elements

1. Use the 9x9 gameboard with three hill blocks (small squares).
2. One of the hill blocks is a two-storey structure. It's impossible to get to the top from the lower level in just one jump. The rover either has to jump from the adjacent one-storey block (in setting up the gameboard always place a one-storey block next to the two-storey one), or use the elevator.
3. All 20 tokens with life samples are placed on the gameboard, with 5 tokens of each type. Whoever is the first to get 9 points, wins (the mechanism of counting points is the same as in the basic version).
4. The base tokens should be placed **three-color side up:** each token is marked as the base of the rover of specific color (the rover starts from this base and returns to it if it was teleported from the gameboard), and the labs for two rovers of other colors. This means that after picking up a life sample, the player has to bring it to the base token, which has a lab of his color (Fig. 7).

Fig. 7. Base/Lab token

5. The blocks are equipped with elevators that the rovers can use to go up and down the blocks without using the "jump" card. The elevator's upper platform is marked with arrows on the block, and the square adjacent to the elevator is considered its lower platform.
   - Ascent and descent happen automatically, regardless of player's wishes if after executing the algorithm, the rover ends on the lower/upper platform.
   - If the elevator is busy (another rover is on the upper or lower platform), it fails to operate, and the rover that prevents the ascent or descent on the elevator pays a compensation for the obstacle it created by giving away 1 life sample, similar to the rover encounter scenario. If by the player's next turn the elevator is no longer occupied, then the turn begins with the elevator moving the rover.
   - When moved by the elevator, the rover retains the direction it had when it ended up on the platform.
   - The elevators facing the "wall" in setting up the gameboard, are considered non-functioning (Fig. 8).

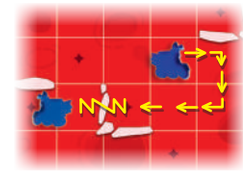
Fig. 8. Elevators



Creation of Algorithms

1. Just like in the basic rules, during his turn a player can use **1 to 3 cards** from his hand, following which the rover executes the algorithm. The difference is that now the players don't just make algorithms "from scratch," but can also utilize the previous player's algorithm, changing it in the process.
2. The first player to go creates an algorithm "from scratch," and following that the algorithm is modified and executed by other players until it reaches its limit of 5 cards (the cycle cards are not taken into account). If in his turn, a player extends the algorithm to **5 cards,** it cannot be made longer — the algorithm is executed, and after that the cards are moved to the discard pile. The next player begins the new algorithm from scratch.
3. In modifying the algorithm, the player can place the cards in front, behind and between the previously placed cards, and even cover the previous cards with new ones.
   - The player cannot simply remove cards from the algorithm (except for the cycle cards, which can be removed at will).
   - If a card or one of the cards under the cycle card is changed (moved, covered, etc.), the cycle card is moved to the discard pile.
   - A player can use the previous algorithm to move his rover without making any changes to the command sequence.
   - The player can refuse his turn ("pass") — in this case he doesn't change the algorithm, doesn't move the rover, and can replace any number of cards in his hand.

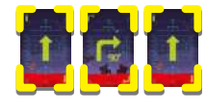
Fig. 9. Using this algorithm of 4 commands with two cycle cards, the rover will move in the following way: step forward ➔ turn right ➔ step forward ➔ turn right ➔ three steps forward *➔ jump*



This is how the route will look on the gameboard

An example of algorithm creation:

1. Player A makes the algorithm.



2. Player B adds 3 cards.

3. Player C adds 1 card and removes the cycle card.

4. Player A adds 2 cards.

5. The algorithm has reached its limit, after execution the cards are moved to the discard pile, player B starts the new algorithm from scratch.

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