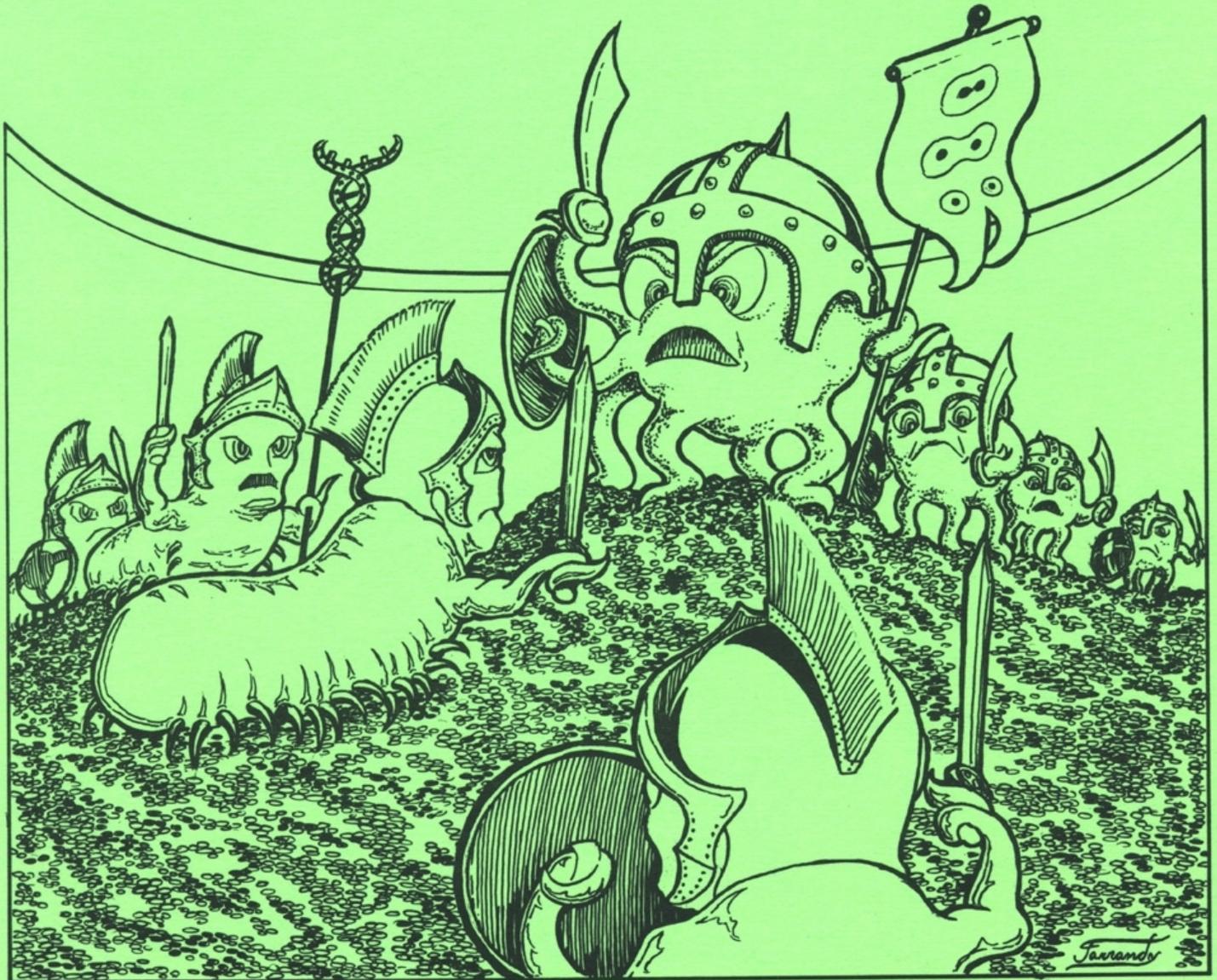


G R O

Battle for the Petri Dish

An abstract game of germ warfare for 2 players



Introduction

GRO is an abstract game of germ warfare for 2 players. Each player controls the growth and expansion of a strain of bacterium within the confines of a Petri dish. Your goal is to become the dominant strain, proving your virulence to the lab tech studying your behavior and to the world at large.

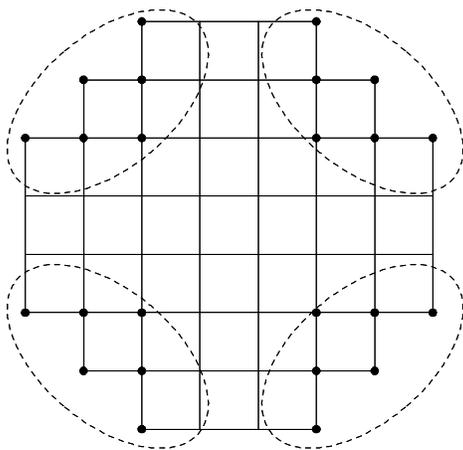
Equipment

Germs

The 16 red and 16 blue tokens represent germs. Germs come in 3 sizes: small, medium, and large. One token represents a small germ, 2 tokens stacked together represent a medium germ, and 4 tokens stacked together represent a large germ. There are no 3 token germs and no germs larger than 4 tokens.

The Petri Dish

The board represents the Petri dish where the battle is fought. Each intersection of lines in the dish is called a point. The dish contains 4 goal areas. Each goal area consists of 6 points, each marked with a large dot.



The Four Goal Areas

Germs occupy the intersection of lines in the dish, not the square spaces. Any intersection, or point, is legal, including those along the edge or corners. One point may contain only 1 germ.

The Illustrations & Example Card

The Illustrations side of the Illustrations & Example card shows how to count adjacent open points and how germs move, grow, and divide. Refer to the Illustrations while you read the rules and use them as a reference while you play the game.

The Example side of the card shows the first 5 moves of a typical game of GRO.

How to Play

Choose who will play the red germs and who will play the blue germs. Red moves first, then players take turns.

The game begins with an empty Petri dish. On your 1st turn, you must place 1 small germ in the Petri dish. On each subsequent turn, 1 of your germs may do 1 of the following: move, grow, or divide. Players continue to take turns until one player wins or a draw is declared (see Ending the Game on page 4).

Game Summary

1. Begin with an empty Petri dish
2. Red places 1 small germ in the dish
3. Blue places 1 small germ in the dish
4. Red may move, grow, or divide 1 germ
5. Blue may move, grow, or divide 1 germ
6. Repeat 4 and 5 until someone wins or a draw is declared

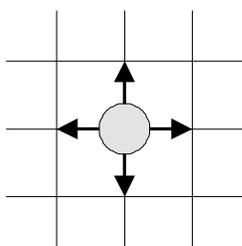
The First Turn

Red goes first by placing 1 small germ on any point in the dish. Then Blue places 1 small germ on any other point in the dish. Red and Blue each keep their 15 remaining germs next to them in their reserves.

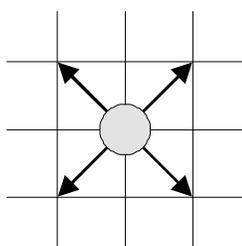
The first turn is the *only* time you place a token directly onto a point in the dish. From now on, you may move tokens from your reserves to the dish only when a germ already in the dish grows (See Growth below).

Open Points

A point is open if it does not contain a germ. A germ's movement, growth, and division are affected by the number of open points orthogonally adjacent to it. A germ's actions are *not* affected by points diagonal to it. (See the Counting Open Points illustration on the card.)



*Orthogonally
Adjacent Points*

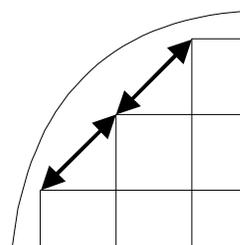


*Diagonally
Adjacent Points*

Movement

A germ may move orthogonally or diagonally to any open point immediately adjacent to it. *After* moving, a small germ must have 1 or more open points orthogonal to it or the move is illegal. Likewise, a medium germ must have 2 or more open points and a large germ must have 4 adjacent open points. Open points diagonal to a germ have no affect. (See the Move illustrations on the card.)

Diagonal moves between points in the "corners" of the dish are legal.



"Corner" Movement

Growth

Small and medium germs may double in size. To double the size of a small germ, take 1 token from your reserves and stack it on top of the small germ, creating a medium germ. To double a medium germ, take 2 tokens from your reserves and stack them on top of the medium germ, creating a large germ. If you do not have enough tokens in your reserves, your germ may not grow.

Before growing, a small germ must have 2 or more open points orthogonal to it. A medium germ must have 4 open points. (See the Grow illustrations on the card.)

A medium germ may grow only into a large, 4 token germ, never into a 3 token germ. Large germs may not grow.

Division

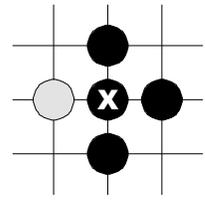
Medium and large germs may divide. Division is really just a special type of move. A medium germ divides by moving 1 small germ to an adjacent, open point while leaving 1 small germ behind. A large germ divides by moving 1 medium germ to an adjacent, open point while leaving 1 medium germ behind.

Before dividing, a medium germ must have 2 or more open points orthogonal to it, and a large germ must have 3 or more. (See the Divide illustrations on the card.)

Large germs may divide only into 2 medium germs, never into a 1 and a 3 token germ. Small germs may not divide.

Death

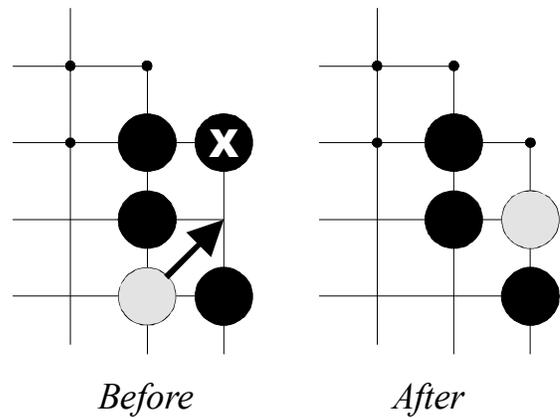
A germ must have at least 1 open point orthogonal to it in order to live. *The size of the germ does not matter.*



Dead Germ

If you move 1 of your germs to a point that leaves an opposing germ with no open points, the opposing germ is killed and returned to your opponent's reserves. Tokens from killed germs may be brought back into play when another germ grows (see Growth on page 2).

You may count the open point you create by killing another germ when you determine if your move is legal. In the illustration below, Red may move to a point with no open points because the move eliminates the Blue germ marked with a x.



Remember, a move is legal if there are sufficient adjacent open points *after* the move is complete.

Suicide is illegal; You may not move a germ to a point that would kill 1 or more of your own germs.

Ending the Game

Winning

You win when your germs are the sole occupants of 3 of the 4 goal areas. You are the sole occupant of a goal area if your germs occupy 1 or more points in the area and there are no opposing germs on any points in the area.

Draws

If the same pattern of germs in the dish recurs 3 times, with the same player to move each time, the moving player may call the game a draw.

You may pass instead of doing anything on your turn. However, if both players pass one right after the other, the game ends in a draw.

Credits

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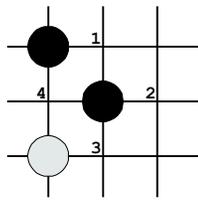
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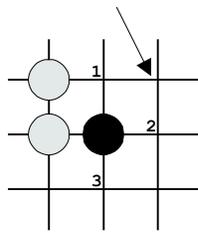
Photos: The red tinted paramecium photo is used under The GNU Free Documentation License. We could not find a credit for the blue tinted amoeba photo. However, all rights are reserved to the photographer, who ever he or she may be.

Counting Open Points

Diagonal points do not count

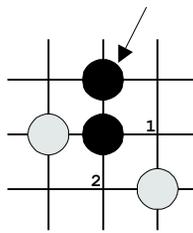


Four Points

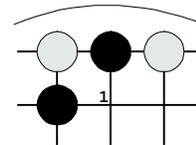


Three Points

Your own germs block

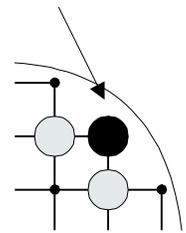


Two Points



One Point

Killed!

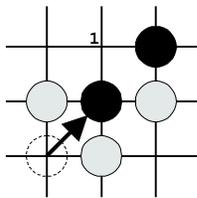


No Points

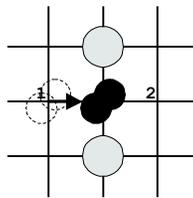
Germ Actions

Move

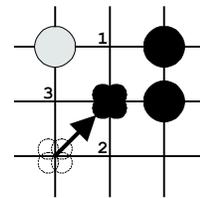
Small Germ: Must have 1 or more open points *after* moving.



Medium Germ: Must have 2 or more open points *after* moving.

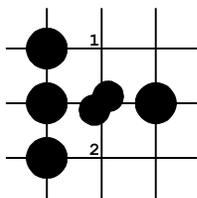


Large Germ: Must have 3 or more open points *after* moving.

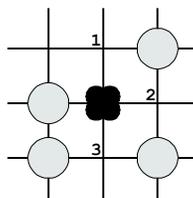


Grow

Small Germ: Must have 2 or more open points *before* growing.



Medium Germ: Must have 3 or more open points *before* growing.



Large Germ: Cannot grow.

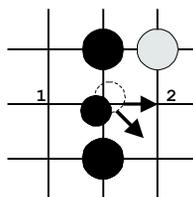


Divide

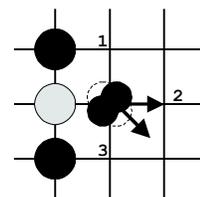
Small Germ: Cannot divide.



Medium Germ: Must have 2 or more open points *before* dividing.

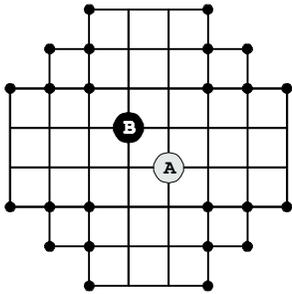


Large Germ: Must have 3 or more open points *before* dividing.



To divide, move 1 small germ to an adjacent point. The moving germ must have 1 or more open points *after* moving.

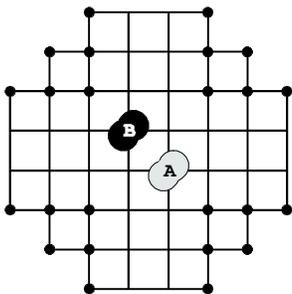
To divide, move 1 medium germ to an adjacent point. The moving germ must have 2 or more open points *after* moving.



Turn 1

Red places a token on point A. This is the only time Red may move a token from his reserves directly onto an open point in the dish.

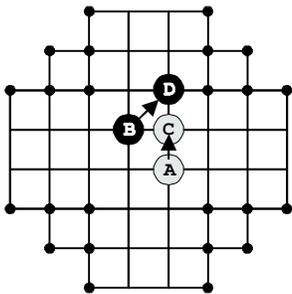
Blue places a token on point B. Like Red's first move, this is the only time Blue may move a token from her reserves directly onto an open point.



Turn 2

Red chooses to grow the small germ at A. He stacks a token from his reserves on top of the small germ to make it a medium germ. The small germ needed 2 or more openings to grow and it had 4.

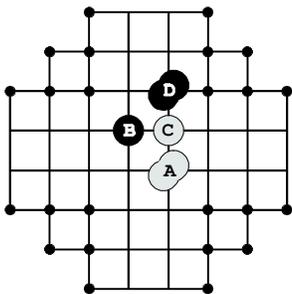
The small germ at B grows to a medium germ. It also had 4 openings so the move is quite legal.



Turn 3

The medium germ at A divides. Red moves a small germ to C leaving a small germ at A. The medium germ needed 2 or more openings to divide and it had 4. The small germ needed 1 or more openings after moving and it had 2.

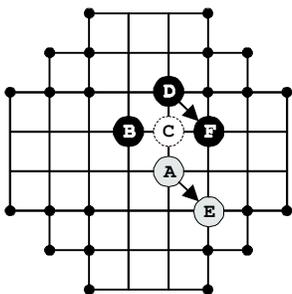
The medium germ at B divides and Blue moves a small germ to D. The medium germ needed 2 or more openings to divide and it had 3. The small germ needed 1 or more openings after moving and it had 3.



Turn 4

The small Red germ at A grows to a medium germ.

The small Blue germ at D grows to a medium germ.



Turn 5

The medium germ at A divides and Red moves a small germ to E. Since E is one of the 6 points in a goal zone and Red is the only player with germs in that zone, Red controls that goal zone.

The medium germ at D divides and Blue moves a small germ to F. Now the small Red germ at C has no adjacent openings and it dies. Red must remove the token at C and return it to his reserves.

