- 3 Games around the new puzzle **Gurami** -

Author:	**Klaus-Peter Rudolph**
Art Design:	**Martin Hoenicke**
Editor (and Co-Author of *Kissing Guramis*)**:**	**Günter Cornett**
Translation:	**Stefan Brach**

Gaming material

- 6 boards
- 48 gaming pieces
- 96 labels for the gaming pieces
- 1 book of rules
- 12 yellow fish pieces
- 12 blue fish pieces
- 1 dice
- 1 fabric bag

For some games pen and paper are required to keep score.

Before the first game the labels are stuck on the gaming pieces.

The same number is stuck on the front and the back of each gaming piece, but in different color (yellow and blue respectively), so that there are 8 sets each of 6 pieces with the numbers from 1 to 6.

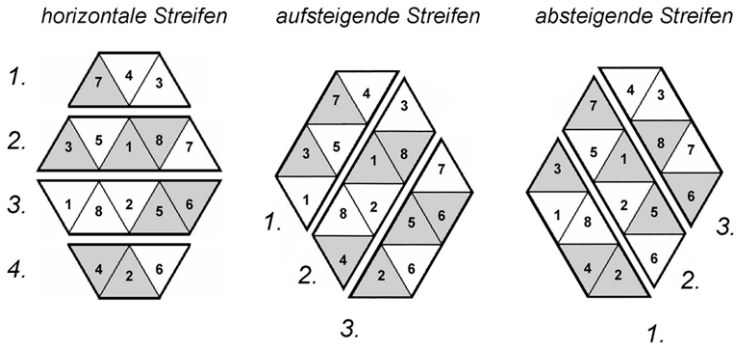
From Sudoku to Gurami - puzzle and game

While Sudoku shows certain parallels to magic squares, Gurami is based on magic figures consisting of triangles.

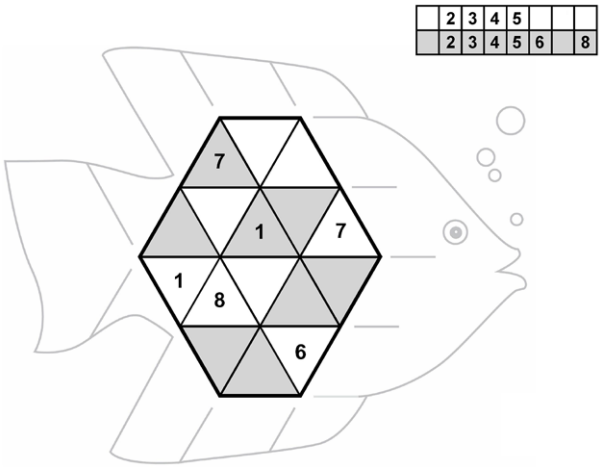
The mathematicians Prof. Hans-Friedrich Bauch and Dr. Klaus-Peter Rudolph analyzed these figures. This collaboration inspired K.-P. Rudolph to invent the puzzle Gurami and several games around it.

The basic rule of the Gurami puzzle:

In each stripe the sum of the numbers in the white triangles equals the sum of the numbers in the gray triangles.



Like in Sudoku at the beginning of each Gurami puzzle some numbers are already filled in the figure in a way that there is exactly one correct solution. The objective is to complete the puzzle with the numbers from the table.



The fish isn't drawn around the figure for nothing. The lines in its fins and on its head visualize the three directions of the stripes and offer space for stripe-based notes.

Due to its help our puzzles are named after the friendly Gurami-fish. Gouramis (German: Gurami) are a family of freshwater fishes that are native to Asia. Giant gouramis are eaten in some parts of the world, while dwarf Gouramis are often kept in home aquariums.

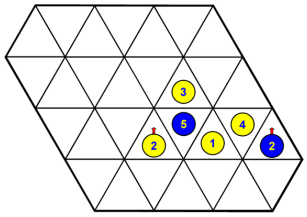
The 3 Gurami games in this collection have different objectives, but they are all based on the summation rule in the stripes.

Definitions

Stripes	A stripe consists of all adjacent fields in a horizontal, upward or downward line. For a stripe it doesn't matter whether the fields are occupied or not (compare picture at the top of this page).
Chain	A chain consists of all occupied fields that are adjacent in a horizontal, upward or downward line.
Yellow and blue pieces	Every piece has a yellow and a blue side. We call the piece yellow if its yellow side is on top and blue if its blue side is on top. If a piece is turned to the other side, it *changes its color*.
Yellow and blue sums	The sum of all yellow pieces of one chain is the yellow sum. The sum of all blue pieces of one chain is the blue sum.
Gurami chain	We call a chain a Gurami chain if the yellow sum equals the blue sum.

Overview of the Gurami games

Equals = Wins



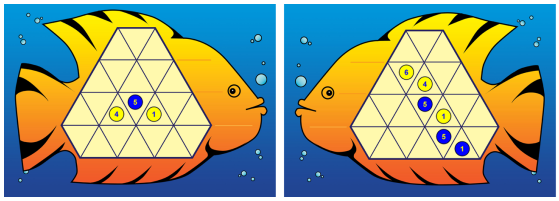
By Klaus-Peter Rudolph

For 2 or 3 players from 9 years and up

Playing time: 15 to 30 minutes

Equals = Wins is a family game in which the players lay out pieces to construct Gurami chains. Bigger Gurami chains bring about higher scores than smaller Gurami chains.

Kissing Guramis



By Klaus-Peter Rudolph and Günter Cornett

For 1 or 2 players from 9 years and up

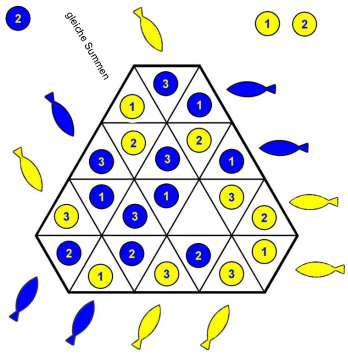
Playing time: 15 to 30 minutes

Kissing Guramis are a type of Gurami fish that will often spar by meeting mouths and pushing each other through the water.

Kissing Guramis is a 2 player game in which both players have their own boards. The objection is to score more points than the opponent by placing the same pieces in a more sophisticated way.

The game versions *Kissing Guramis - Challenge* and *Kissing Guramis - Puzzle* have the character of brain teasers. Hence these versions are the games most similar to the Gurami puzzles in the book.

All versions of *Kissing Guramis* can also be played by more than 2 players if enough gaming material is available (gaming pieces and board copies).



GOrami

By Klaus-Peter Rudolph

For 2 players from 9 years and up

Playing time: 20 minutes

GOrami is a tricky strategy game for 2 persons.
Here both players have their own color. The objection isn't equal sums, but to conquer more stripes than the opponent by having higher sums of one's own gaming pieces.

One tactic is to take the last liberty of an opposing piece, because then the opposing piece is turned to one's own color.

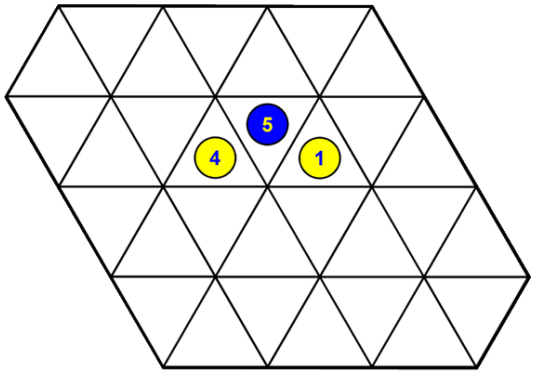
Equals = Wins

by Klaus-Peter Rudolph

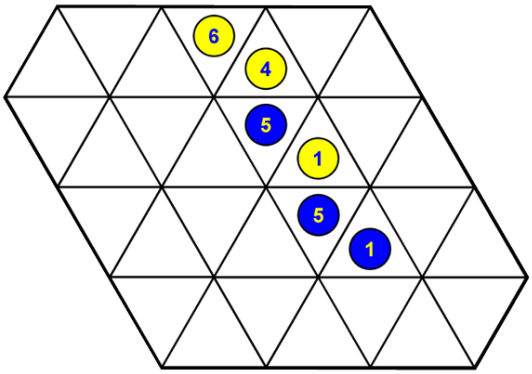
for 2 or 3 players from 9 years and up playing time: 15 - 30 minutes

Objective

Both players try to create lines of adjacent pieces in which the sum of the blue pieces equals the sum of the yellow pieces (Gurami chain). The sum of the newly created Gurami chains is then added to the score of the player.



Gurami chain with the value 5
(Yellow: 4 + 1 = 5 Blue: 5 = 5)



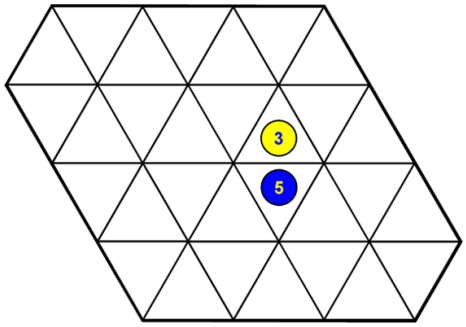
Gurami chain with the value 11
(Yellow: 6 + 4 + 1 = 11 Blue: 5 + 5 + 1 = 11)

Setup

Pen and paper are required to keep score.
The players choose a game version and put the corresponding number of pieces in the bag.

Game version	Number of players	Pieces in the bag*	number of pieces from the bag		remaining pieces in the bag
			to remove from the game	to place on the board	
30 fields	2 players	5 sets = 30	4	2	24 pieces
42 fields	2 players	7 sets = 42	4	2	36 pieces
	3 players	7 sets = 42	4	2	36 pieces
52 fields	2 players	8 sets = 48	6	2	40 pieces
	3 players	8 sets = 48	4	2	42 pieces

** 1 set of pieces consists of the numbers 1 to 6*



Possible setup

One player draws 4 or 6 pieces (compare table) from the bag without looking and puts them back to the game carton. After that the player draws another 2 pieces with different numbers from the bag and puts them on two adjacent fields in the center of the board. One piece is required to show yellow color while the other needs to show blue color.

The player on the left of this player will take the first turn. The players take turns clockwise. At the beginning of their first turns the players draw two pieces from the bag without showing them to the other players.

Play sequence

Each player's turn consists of the following actions in the following order:

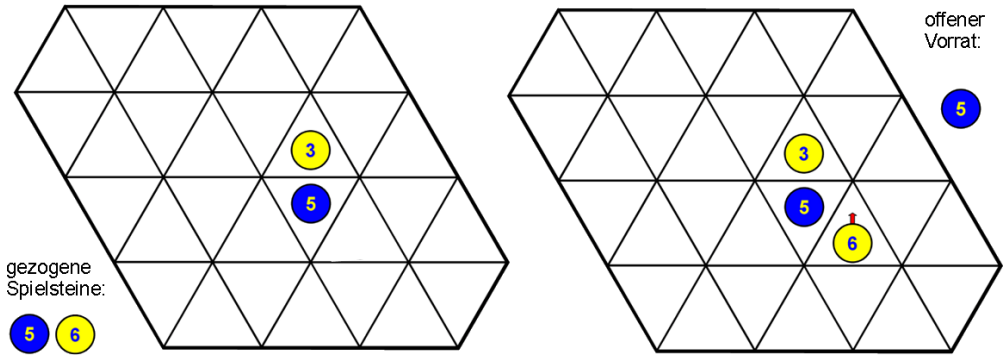
1. The player puts at least 1 of one's own pieces on a field of the board and receives points.
2. The player puts the pieces that one couldn't or didn't want to place on the board as a stock openly next to the board.
3. The player draws two pieces from the bag (omitted in the last round).

1. Placing pieces on the board

At one's disposal are one's own two pieces plus the pieces that might be in the stock. The color of each piece can be chosen freely (blue or yellow side on top). **However pieces with the same number must never be placed on two adjacent fields! Even pieces with different colors but the same number mustn't be on adjacent fields.**

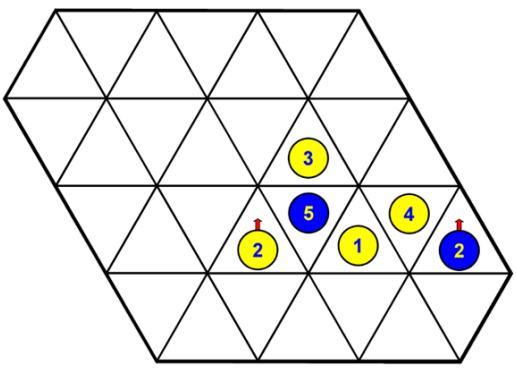
One has two options:

a) If one can't or don't want to create Gurami chains, one places a piece on a free field of the board. In doing so at least one adjacent field of the new piece must be occupied with a piece of the opposite color. The number of the new piece is added to the player's score.



No Gurami chain is possible. The player puts the yellow 6 adjacent to the blue 5 and receives 6 points. The 5 is put in the stock.

b) One creates 1 or more Gurami chains by putting pieces on the board. Only pieces that take part in the formation of a Gurami chain might be placed on the board. Usually also existing pieces on the board are involved in the creation of new chains.



The player places a yellow 2 and a blue 2. Hence the player generates two Gurami chains (blue sum = yellow sum) and scores 7 + 5 = 12 points:

In the horizontal stripe:

Blue: 5 + 2 = 7

Yellow: 2 + 1 + 4 = 7 *7 points*

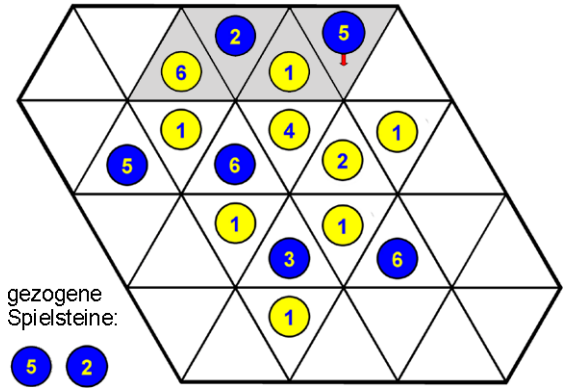
In the upward stripe:

Blue: 5 = 5

Yellow: 2 + 3 = 5 *5 points*

Remark: Sometimes it is possible to create a new Gurami chain that has no contact to existing pieces on the board. Although this might bring less points, it can make sense if in doing so one doesn't have to put pieces in the stock.

The player receives points for every Gurami chain created during one's turn, even if the player adds pieces to any of those chains so that the sums are unequal at the end of one's turn.



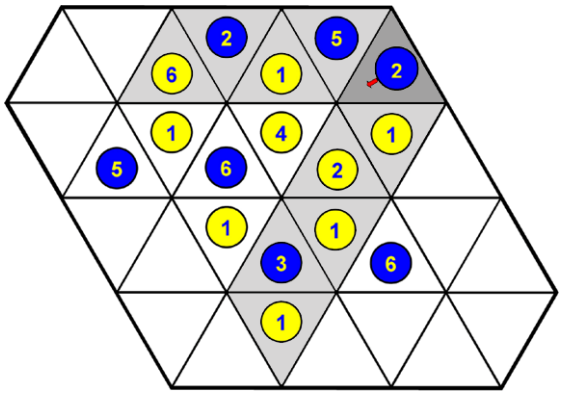
Example:

The player draws a 5 and a 2.

First the player places the 5 so that the sums of the upper horizontal chain are equal:

Yellow: 6 + 1 = 7
Blue: 2 + 5 = 7

Hence the player scores 7 points.



After that the player puts the 2 so that the sums in the upward chain are equal.:

Yellow: 1 + 1 + 2 + 1 = 5
Blue: 3 + 2 = 5

For this the player receives another 5 points.

Although the 2 destroys the shortly before created Gurami chain, the player keeps the 7 points that were awarded for that chain.

It would have been different though if the player would have put the 2 first. Then the player mustn't have placed the 5 on that field because the blue sum of the upper chain would be 9. Therefore sometimes it does matter in which order one places the pieces.

If by putting a single piece one creates several Gurami chains at the same time, for example in an upward and a horizontal stripe, one receives the points for each of these chains.

2. Putting pieces in the stock

Pieces that the player didn't place on the board go to the open stock, that is they are put next to the board.

3. Drawing pieces from the bag

The player draws 2 pieces from the bag without showing them to the opponents. In the last round there are no more pieces in the bag, hence drawing in the last round is omitted.

End of the game

The game ends if the last player can't draw any pieces from the bag at the end of the turn. The game ends even if there are still pieces in the stock.

The player with the most points wins the game.

Kissing Guramis

by **Klaus-Peter Rudolph** and **Günter Cornett**

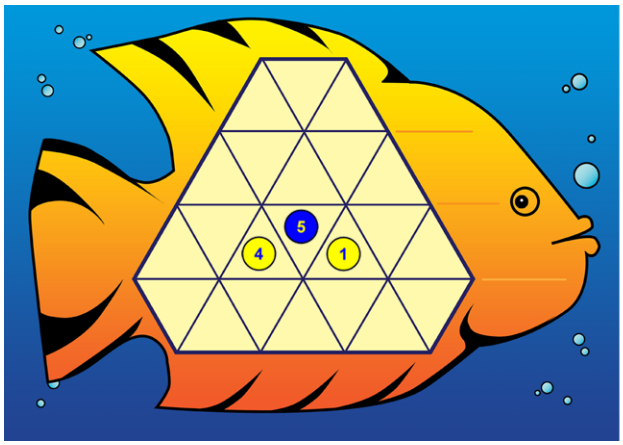
for 1 or 2 players from 9 years and up

Playing time: 15 - 30 minutes

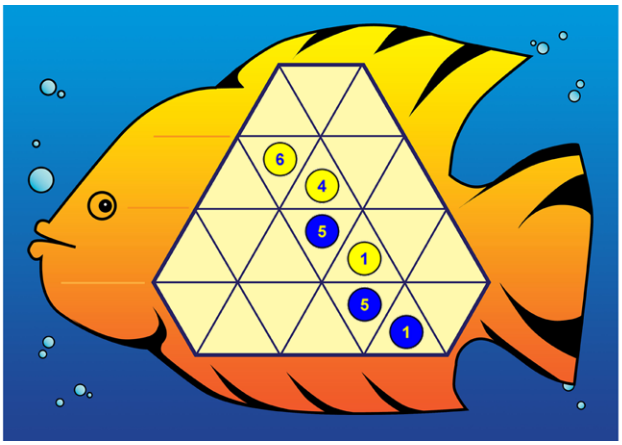
Kissing Guramis are a type of Gurami fish that will often spar by meeting mouths and pushing each other through the water.

Objective

Like in the game *Equals = Wins* in the game *Kissing Guramis* the objective is to create lines of adjacent pieces in which the sum of the blue pieces equals the sum of the yellow pieces (Gurami chain). The sum of the Gurami chains is then added to the score of the player.



Gurami chain with the value 5
(Yellow: 4 + 1 = 5 Blue: 5 = 5)



Gurami chain with the value 11
(Yellow: 6 + 4 + 1 = 11 Blue: 5 + 5 + 1 = 11)

Unlike in *Equals = Wins* all players have their own board. Also in the 2 player version both players place the same pieces to hold Fortune at bay.

Gaming material for a single player:

1 board with 22 fields
24 pieces (4x the numbers from 1 to 6)
1 bag
1 pen and 1 sheet of paper

Gaming material for two players:

2 boards with 22 fields
48 pieces (8x the numbers from 1 to 6)
1 bag
1 pen and 1 sheet of paper

Setup

Every player receives a board and 24 pieces (4 sets from 1-6 each)

Pen and paper are required to keep score.

In a two player game the players take seats side by side. The boards are arranged in such a way that both single fish look at each other.

The players choose a *bag player* who puts all of one's pieces in the bag.

In a multiplayer game all other players put their pieces openly next to their boards.

Game start

The bag player draws 4 pieces from the bag.

In a multiplayer game all other players draw 4 pieces with the same numbers from their stocks.

All players put their 4 pieces in any order on the board, but not on adjacent fields. Hence in the first round no Gurami chains can be created.

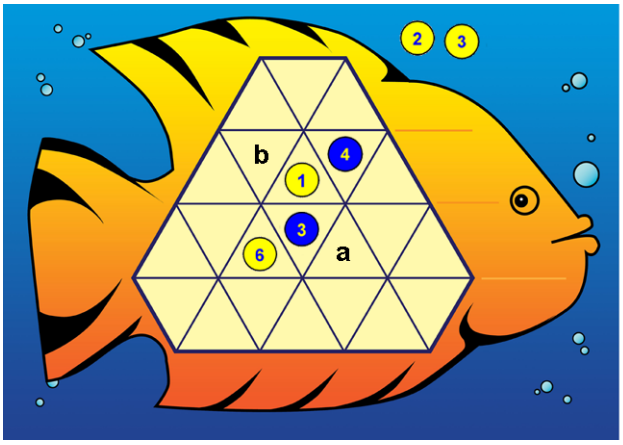
Each player can choose for every piece whether the blue or the yellow side should be on top.

Play sequence

At the beginning of every turn the bag player draws two pieces from the bag. All other players draw 2 pieces with the same numbers from their stocks. Then all players put their pieces on the board. **However pieces with the same number must never be placed on two adjacent fields! Even pieces with different colors but the same number mustn't be on adjacent fields.** Like in *Equals = Wins* the value of every Gurami chain created during one's turn is added to the score - even if one's second piece causes the sums to be unequal at the end of the turn. In *Kissing Guramis* it is also allowed to place pieces on the board that don't contribute to a new Gurami chain.

Example: The player draws a **2** and a **3.**

First the player puts the yellow **2** on field **a**, so that the sums in the downward chain are equal:



Yellow: 1 + 2 = 3
Blue: 3 = 3

For this the player receives 3 points.

After that the player places the yellow **3** on field **b**, so that the sums in the horizontal stripe are equal:

Yellow: 3 + 1 = 4
Blue: 4 = 4

Hence the player scores another 4 points.

Although the **3** destroys the shortly before created Gurami chain, the player keeps the points that were awarded for that chain.

It would have been different though if the player would have put the **3** on field **b** first. Then the player wouldn't receive any points for putting the **2** on field **a**, because the yellow sum of the downward chain would be 6. Therefore sometimes it does matter in which order one places the pieces.

If by putting a single piece one creates several Gurami chains at the same time, for example in an upward and a horizontal stripe, one receives the points for each of these chains.

If (near the end of the game) a piece can't be placed it is put beside the board.

End of the game

The game ends if all fields of every board are occupied or if there are no more pieces to draw from the bag. The player with the most points wins the game.

Kissing Guramis - Challenge

An interesting brain-teaser for one player (as a game of solitaire) or for 2 players (as a duel):

In the 1 player version the single player draws one after another the 24 pieces from the fabric bag and arranges them in a long line. In the 2 player version the opponent also arranges one's pieces in the same order.

Both players put their pieces on the board according to the order of the line. If a player creates a Gurami chain one adds the value of the chain to one's score.

Notation:

It is possible to note down a game to improve one's score by choosing different approaches. For this one firstly writes down the order of the start line.

The horizontal stripes are labeled from top to bottom with the letters A, B, C, D. In the stripes one counts from left to right.

Example:	b = blue, y = yellow
Record:	b5 - C3 = 7
That means:	The blue piece with the number 5 is put in row C on field 3. Hence the player scores 7 points.

Kissing Guramis - Puzzle

In addition to the material mentioned above in this version each player receives 12 fish pieces. Also the **dice** is needed. Finally all player put 4 sets of pieces from 1 to 6 next to their boards.

The objection is to have as many stripes that fulfill the Gurami condition as possible by the end of the game. During the game no points are awarded.

One player throws the dice. All players put the diced number on a field of their boards. If a player already has all pieces with the diced number on the board that player is allowed to place a piece of any number.

In this game it is important to look ahead, to keep options open, and to pay attention also to the pieces that haven't been placed yet.

To keep a clear head we recommend the following:

If there is only one number missing in a stripe put the missing piece next to that stripe. This shows you what number is still missing and it prevents you from putting that number on another field.

Players who completed a stripe in such a way that the blue and the yellow sums are equal place a fish piece next to that stripe.

In the two player version the player with the most stripes fulfilling the Gurami condition wins the game. In case of a tie the sums of the Gurami stripes are added and the player with the highest overall sum wins.

GOrami

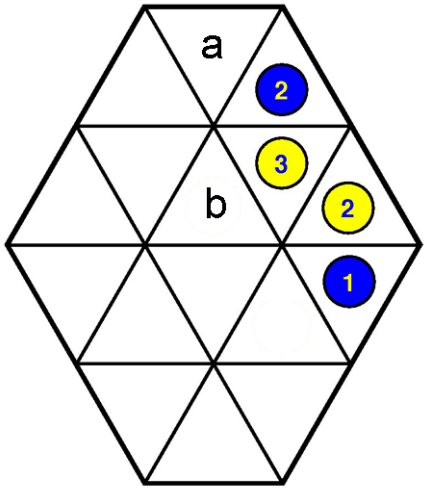
by Klaus-Peter Rudolph

for 2 players from 9 years and up

playing time: 20 minutes

Objective

Both players take turns alternately. At the beginning of each turn one puts a piece of one's own color on the board. If this piece occupies the last free adjacent field of an opposing piece, this piece is turned over and thus takes on one's own color.



The objective is to have as many stripes (horizontal, upward or downward) as possible with a higher sum than the opponent.

Example:

Picture on the right:

*A yellow piece on **a** turns the blue **2** into a yellow **2**.*
*A blue piece on **b** turns the yellow **3** into a blue **3**.*

*A blue piece on **a** or **b** won't cause any changes of color.*

GOrami is played with the numbers from 1 to 3. Hence the rule (see below) that pieces with the same number mustn't be on adjacent fields is a very important part of the game mechanics.

Setup

The players choose a board with 16, 22 or 24 fields. Both players only place pieces of their own color respectively. In the case of the board with 16 fields each player receives 3 sets of numbers from 1 to 3. In the cases of 22 or 24 fields each player has 4 sets of numbers from 1 to 3.

The fish pieces are put next to the board. They will be needed to determine the winner at the end of the game.

Play sequence

Both players take turns alternately. At the beginning of each turn one puts a piece of one's own color on a free field. **Pieces with the same number must never be placed on two adjacent fields! Even pieces with different colors but the same number mustn't be on adjacent fields.** If one player is unable to put a piece, the opposing player is allowed to place as many pieces as still possible.

If the last free adjacent field of an opposing piece is occupied, this piece is turned over to one's own color.

End of the game

The game ends if both players are unable to put any pieces.

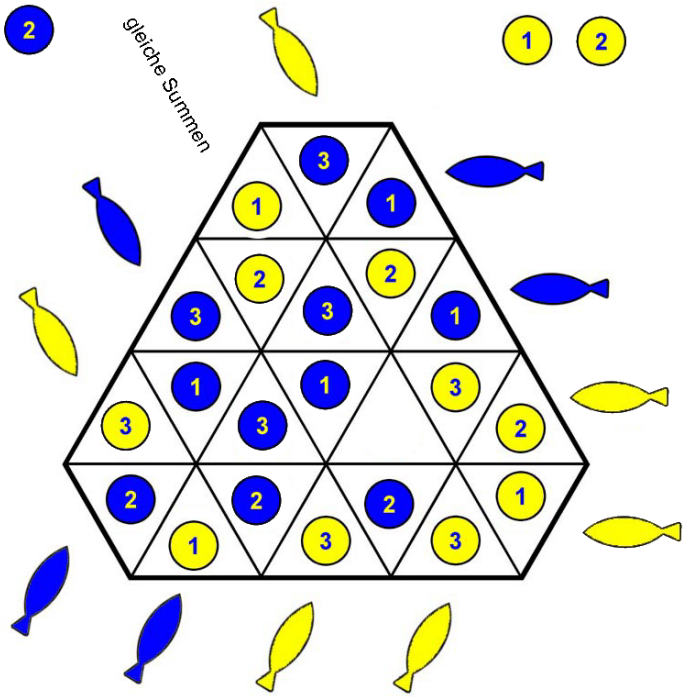
Because pieces with the same value mustn't be placed on adjacent fields one field remains empty in the example below.

Scoring:

The players put fish pieces of their own color in direction of those stripes in which they have a higher sum than the opponent. The player to control the most stripes wins the game.

In the picture on the right Yellow has six stripes with higher sums, while Blue has 5 stripes. One stripe has equal sums.

Hence Yellow wins the game.



How to break a tie

If both players control the same number of stripes the player to have the highest sum in the center wins the game.

The center consists of all fields whose corners have no contact to the boundary:

Board size	Figure in the center	Number of central fields
16 fields	Central rhombus	2 fields
22 fields	Central triangle	4 fields
24 fields	Central hexagon	6 fields

If the center doesn't break the tie, the game ends in a draw.

Art Design: Martin Hoenicke

Klaus-Peter Rudolph

Hans-Friedrich Bauch

Gurami -

the new combinatorial puzzle

Gurami is a new number-placement puzzle that is based on magic figures.

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The book contains 60 brain-teasers and hints on how to solve the puzzles by taking advantage of the nature of the triangle mosaic.

It's written in German language.

ISBN 978-3-9811892-1-6

For more information: *www.gurami-puzzle.com* *www.gurami-raetsel.de*

Bambus Spieleverlag
Günter Cornett
Kopfstraße 43
12053 Berlin
Germany

info@bambusspiele.de

Phone/Fax +49(0)30 - 6121884