

# JUMPING JULIA

## FESTIVAL GUIDE

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**Julia Robinson  
Mathematics  
Festival**

## Materials and Setup

You will need a large space where you can place 4 floor mazes:

Per Table/Area	Material Preparation	
4 Jumping Julia floor mazes	<a href="#">Create your own</a> or <a href="#">purchase</a> .	
4 copies of Tasks with Instructions	4 different 1-page sheets <i>Print single-sided and place near the mat</i>	p. 5-8
1 copy of Table sign	1-page sheet <i>print on cardstock for sturdiness</i>	p. 9

Per Table	Purchasing Materials		
4 floor mats	<a href="#">Create your own</a> or <a href="#">purchase</a>		
4 plastic sheet protectors	<a href="#">pack of 100</a> for \$7.67	<a href="#">pack of 500</a> for \$26.99	These are recommended in order to protect the documents that students will be handling.





## Objective

Reach the bottom-right corner labeled “Goal”.

Rules:

1. Start on the top-left corner (the tile with the big “S”).
2. The number you are standing on tells you how many jumps you must make. For example, if you are standing on a 3, you must jump 3 times.
3. You can only jump up, down, left, or right in a straight line. You cannot move diagonally or in an L-shape.

## Materials

Each Jumping Julia table/area should be prepped with:

1. One floor maze.
2. Jumping Julia instructions and task sheet posted near the corresponding floor maze.

## How to Play

**We strongly encourage you to explore the activity yourself ahead of time.**

You can try our digital version here: [jrmf.org/puzzle/jumping-julia](http://jrmf.org/puzzle/jumping-julia)

Introduce the activity without overexplaining it and without telling what strategies students might want to use. As much as possible, avoid giving away answers. Students should be encouraged to explore, experiment, and learn from their mistakes.

1. Have the student stand on start.
2. Demonstrate the rules by having them practice which jumps they are allowed to make.
3. Depending on the age, you may want to remain with the student until they successfully solve the first maze. Older students may prefer to solve the printed maze posted on the wall.
4. Have the student explore another maze.

## Standards

1. Make sense of problems and persevere in solving them. CCSS.MP1
2. Construct viable arguments and critique the reasoning of others. CCSS.MP3
3. Model with mathematics. CCSS.MP4
4. Attend to precision. CCSS.MP6

## Asking Good Questions

1. Ask questions about confidence.
  - a. When a student asks you “Is this right?”, instead of saying “yes” or “no” right away, ask them how confident they are in their answer. Here are some examples:
    - i. “Maybe. What do you think? How confident are you?”
    - ii. “On a scale of 1-5, how confident are you in your answer?”
  - b. If a student is not confident in their answer, follow up by asking “What would help you feel more confident in your answer?” or “Why do you not feel confident?” This helps you determine how best to help the student through their explorations.
2. Ask students about choices.
  - a. When a student is stuck or shows you a wrong answer, instead of jumping in and showing the student the correct answer, start by asking about the choices that the student made along the way. Here are some suggested steps to follow:
    - i. Start from the beginning.
    - ii. Ask students to show you what they’ve tried so far.
    - iii. When the student gets to a point where they have different choices, ask the student “What other choices can you make here?”
    - iv. Have the student make a different choice and try to solve the puzzle. This helps the student see that they have the power to make different choices during an activity, and they’ll start to do this on their own in the future.
    - v. If you’re familiar with the puzzle or a particular solution, stop the student only when a different choice will help them get to the solution. This will help them feel successful faster without you giving away too much of the answer.
3. Ask students about strategies.
  - a. If a student is getting into the activity and has been doing it for a while, ask the student if there are any strategies they’ve come up with to help them solve the puzzle or win the game.
  - b. Follow up by asking if they think their strategies will work for all puzzles and/or larger puzzles, more complex puzzles, etc. Have the student explore more complex puzzles to test out their strategies.
  - c. This is a great way to encourage a student to dive deeper into an activity and to start looking for patterns, structure, and proofs.

## Answers

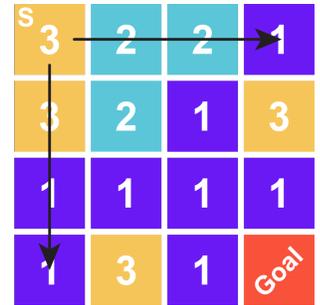
Most mazes have more than one solution, so answers may vary.

- Maze #1: Down, Up, Right, Right, Right, Down
- Maze #2: Down, Up, Right, Up, Down, Right
- Maze #3: Down, Down, Right, Up, Down, Left, Right, Right, Up, Down, Down
- Maze #4: Down, Right, Up, Down, Left, Right, Up, Down, Down, Right, Up, Down

# Jumping Julia Maze 1

Rules:

1. Start on the top-left corner (the tile with the big “S”).
2. The number you are standing on tells you how many jumps you must make. For example, if you are standing on a 3, you must jump 3 times.
3. You can only jump up, down, left, or right in a straight line. You cannot move diagonally or in an L-shape.
4. If you ever get stuck, you can always step off the maze and start over.
5. If you end up on the tile that says “Goal,” you’ve solved the maze!



Starting on the 3, you have two choices: You can jump three spaces down or three spaces to the right.

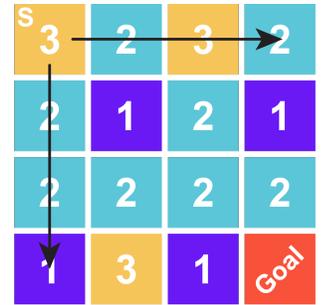
## Maze #1



## Jumping Julia Maze 2

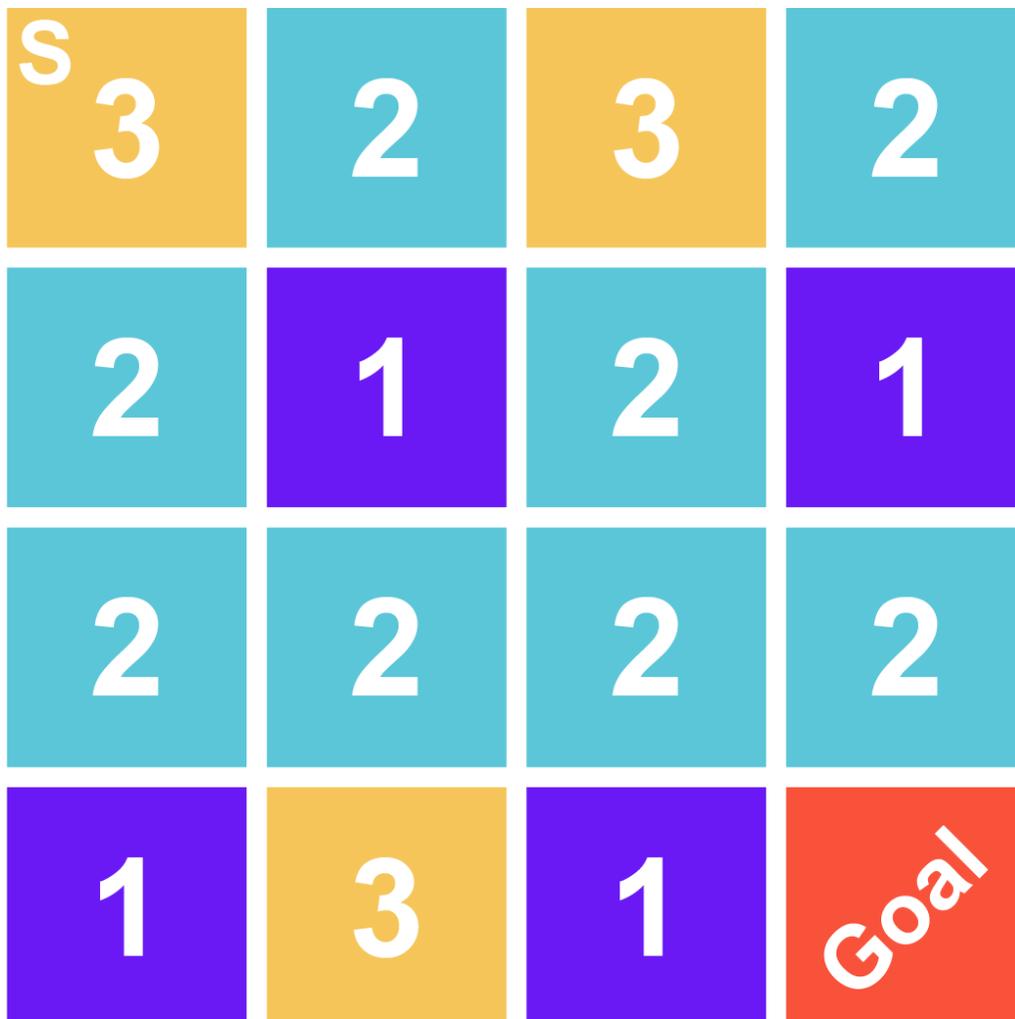
Rules:

1. Start on the top-left corner (the tile with the big “S”).
2. The number you are standing on tells you how many jumps you must make. For example, if you are standing on a 3, you must jump 3 times.
3. You can only jump up, down, left, or right in a straight line. You cannot move diagonally or in an L-shape.
4. If you ever get stuck, you can always step off the maze and start over.
5. If you end up on the tile that says “Goal,” you’ve solved the maze!



Starting on the 3, you have two choices: You can jump three spaces down or three spaces to the right.

### Maze #2



# Jumping Julia Maze 3

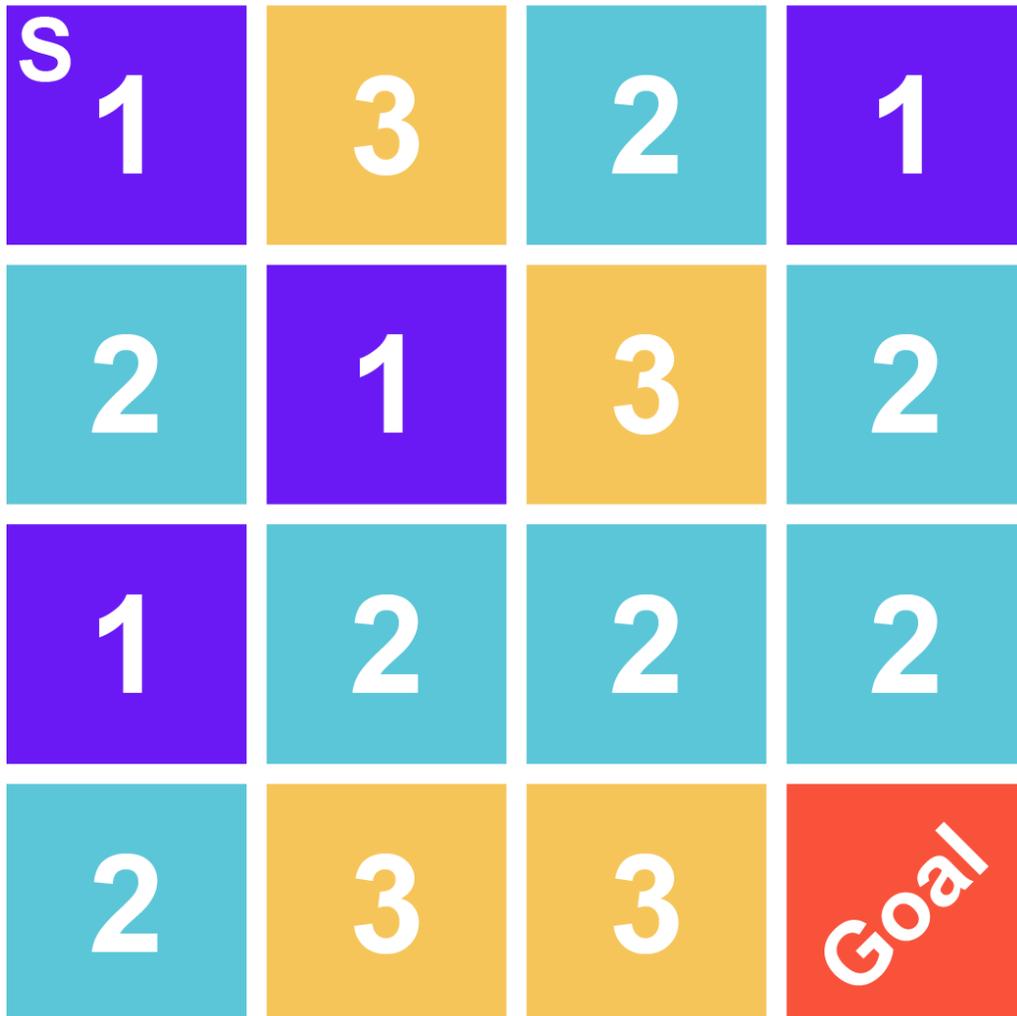
Rules:

1. Start on the top-left corner (the tile with the big “S”).
2. The number you are standing on tells you how many jumps you must make. For example, if you are standing on a 1, you must jump 1 time.
3. You can only jump up, down, left, or right in a straight line. You cannot move diagonally or in an L-shape.
4. If you ever get stuck, you can always step off the maze and start over.
5. If you end up on the tile that says “Goal,” you’ve solved the maze!



Starting on the 1, you have two choices: You can jump one space down or one space to the right.

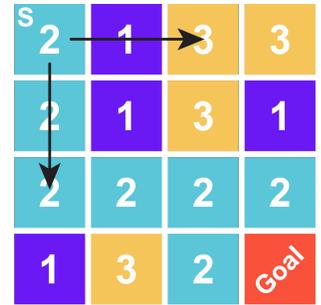
## Maze #3



# Jumping Julia Maze 4

Rules:

1. Start on the top-left corner (the tile with the big “S”).
2. The number you are standing on tells you how many jumps you must make. For example, if you are standing on a 2, you must jump 2 times.
3. You can only jump up, down, left, or right in a straight line. You cannot move diagonally or in an L-shape.
4. If you ever get stuck, you can always step off the maze and start over.
5. If you end up on the tile that says “Goal,” you’ve solved the maze!



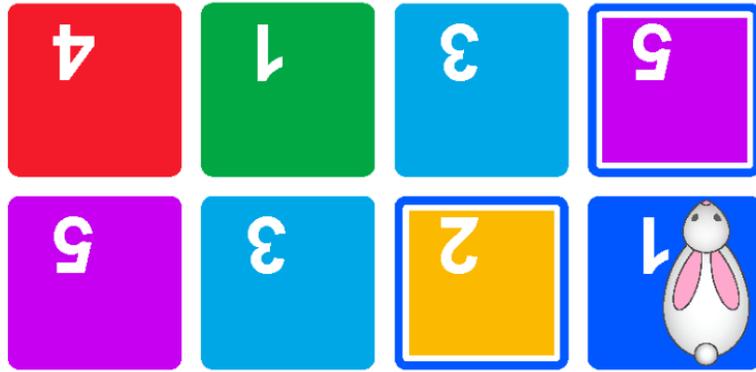
Starting on the 2, you have two choices: You can jump two spaces down or two spaces to the right.

## Maze #4





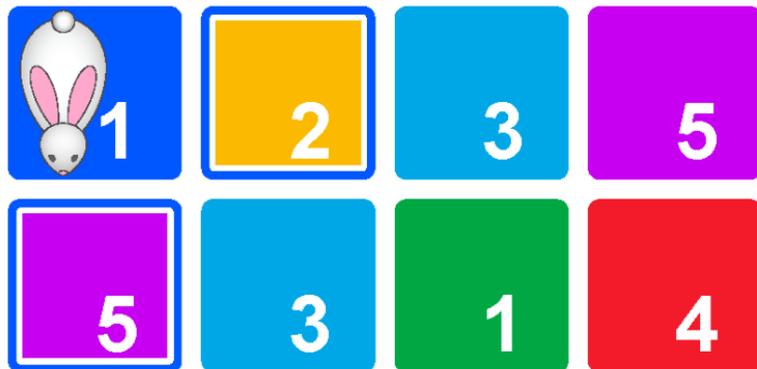
Play for free at  
[jrmf.org/puzzle/jumping-julia](http://jrmf.org/puzzle/jumping-julia)



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