Colored Loops







App





Colored Loops

Objective:

Complete each puzzle by coloring and numbering the arrows without breaking any of the rules below.

Rules:

- 1. An arrow's number tells you how far to jump from it clockwise
- 2. Any arrow you land on must be the same color as the arrow you jumped from.
- 3. All the arrows that are the same color need to form a single loop no matter which of the arrows you start at, you must eventually land on every arrow of that color and return to the arrow where you started without ever landing on an arrow that's a different color.

Which of these completed rings follow all the rules?



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Colored Loops

In a Colored Loops puzzle, if an arrow is gray, you have to color it in. If an arrow is blank, you have to put a number inside it. Be careful not to break any of the rules!









Add colors and numbers to the arrows below so that each puzzle follows the rules of Colored Loops.



For more fun problems, visit jrmf.org!



Impossible Rings

Explain why each of the puzzles below is impossible to solve.







Big Rings 1

Add numbers to the arrows below so that each puzzle follows the rules of Colored Loops.







Big Rings 2

Add colors to the arrows below so that each puzzle follows the rules of Color Loops.







Big Rings 3

Add colors and numbers to the arrows below so that each puzzle follows the rules of Colored Loops.







More Rings

Add colors to the arrows below so that each puzzle follows the rules of Color Loops. Can you predict how many colors you will need to solve each puzzle before you solve it?



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Forging Rings

Can you create your own puzzles using 5 arrows that satisfy the conditions below? Try to use as few starting numbers and colors as possible when creating your puzzles.

- 1. Create a puzzle with a unique solution that requires 4 different colors.
- 2. Create a puzzle with a unique solution that requires 5 different colors.
- 3. Create an impossible puzzle that has no starting colors.
- 4. Create an impossible puzzle that has no starting numbers.
- 5. Create a puzzle with more than one solution that has 3 starting numbers.
- 6. Create a puzzle with more than one solution that has 4 starting numbers.

Create your own puzzles using different numbers of arrows that satisfy the conditions above. What's the hardest puzzle you can create?

Hint: If you're having trouble making your own puzzles, start with the finished design you want, and work backwards by removing colors and numbers.





Grids

Colored loops can be in grids, too. In grids, arrows can point in four different directions: up, down, left, or right.

Below are two examples of completed grid puzzles. One puzzle has been correctly solved but the other one has a mistake. Can you figure out which solution has a mistake and how to fix it?







Grid Clues

In ring puzzles, you needed to make sure that every arrow had a number and color.

In grid puzzles, you need to make sure that every arrow has a number, color, and direction (up, down, left, or right). There are now various types of clues you might see. Here are the three main categories.







Grid Puzzles

Add colors, numbers, and directions to the arrows below so that each puzzle follows the rules of Colored Loops.





Grid-Lock

Explain why each of the puzzles below is impossible to solve. What could you change in each puzzle to make it possible?







Three-Way Grids

The puzzle below (shown thrice) has three different solutions. Can you find all the solutions?







Grid Challenges

Here are some challenging grid puzzles. Can you solve each one?

