“YOU LIKE JAPAN” 12x12 Challenge

A double Sudoku/Slide souvenir puzzle designed by Kate Jones expressly for Jeremiah Farrell’s IPP36 exchange puzzle, Kyoto, Japan – August 2016

For best results, print out this page on heavy paper or glue it on card material before cutting out the letters.
Happy puzzling!
How to use this puzzle:

Three mini-puzzles: Solve the 3x3, 4x4 and 5x5 squares so no two of the same letter nor same color are in the same row, horizontally and vertically (except for the letter A).

- For extra challenge in the 4x4 (LIKE), have no two letters of the same color touch sides. Corner contact is OK. Additionally, have seven 2x2 areas contain all 4 colors (areas may overlap); seven 2x2 areas contain all four letters; and five 2x2’s contain all four letters in all 4 colors. Have no two of the same letter nor same color in any diagonal row.

- For extra challenge in the 5x5 (JAPAN), have no two of the same letter nor the same color in any of 25 rows, in any direction: horizontal, vertical or diagonal (except for the letter A). There are 14 diagonals!
Goals for the full 12x12 puzzle:

1. Cut out the 144 letters above and rearrange them on the 12x12 grid so that one or more of these goals are met at the same time:

   ✦ Each of 24 rows—12 horizontal, 12 vertical—contains all 12 letters of YOU LIKE JAPAN, in any order.
   ✦ All horizontal and vertical rows contain all different colors (no two of the same color in any row).
   ✦ Have a maximum of diagonal rows with no two of the same color.
   ✦ Have no two of the same letter adjacent diagonally (except A).
   ✦ Have a maximum of diagonal rows with no two of the same letter (except A). There are 42 diagonal rows on the grid. How many rows are possible with no duplicate letter (except A)?
   ✦ How many of these goals can you meet simultaneously?

2. After you’ve found a solution to Challenge 1:

   ✦ Remove any one A from your solution and set it aside. Now slide the letters on the grid one by one into a neighboring empty space (no diagonal moves) until you’ve rearranged them so that all horizontal rows spell YOU LIKE JAPAN in the correct order, and each row has a single color, leaving one space in the right spot to replace the letter you removed.

   ✦ Find a sliding solution from any scrambled position of the 144 letters on the grid; remove any one A at the start and replace it at the end.

   ✦ Do the same for the 4x4 and 5x5 squares.