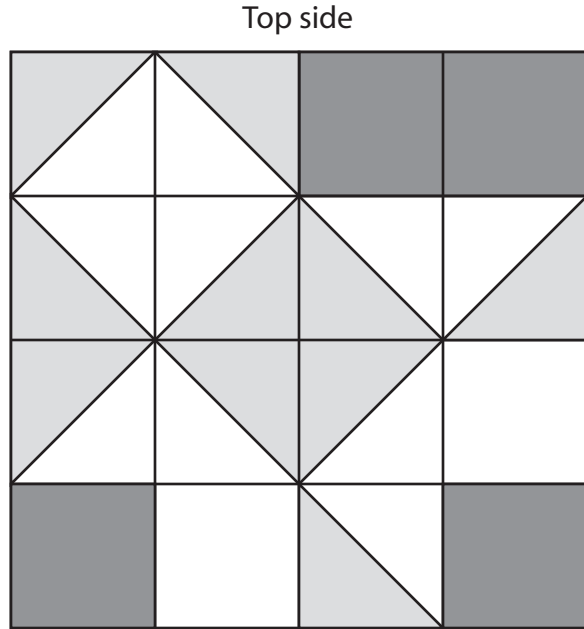
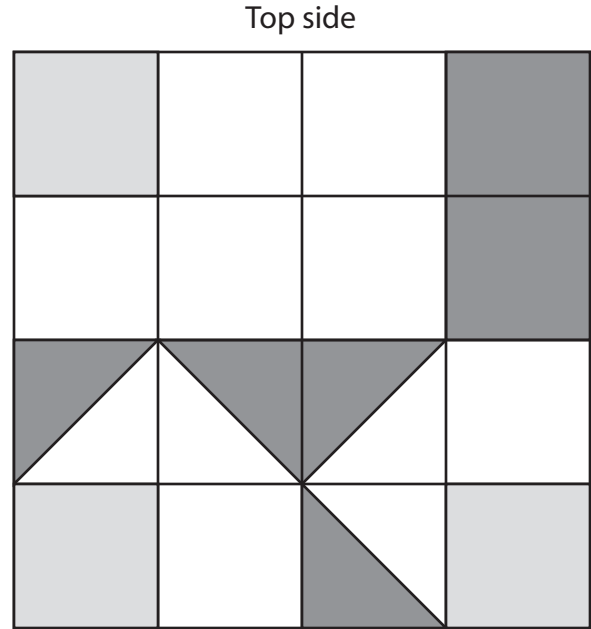


# Colored Squares

designed by Erik Demaine and Martin Demaine, 2005

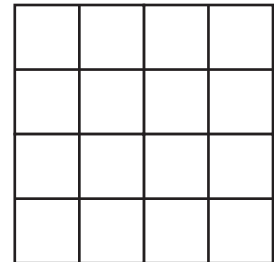


Color pattern, front



Color pattern, back

**Setup:** Start with a piece of paper that is white on both sides. Precise to make a  $4 \times 4$  grid of creases as shown on the right. Color in the pattern shown above for each side using two different shades or colors. Be careful when you turn over the puzzle that you keep the side marked "top side" on top. Also be sure to use ink that does not bleed to the other side.



**Goals:** Puzzle 1 is to fold the  $4 \times 4$  square to a  $2 \times 2$  square that is entirely light gray on both sides. Puzzle 2 is to fold a  $2 \times 2$  square that is entirely dark gray on both sides. You will use all of the available light or dark gray in each of these puzzles.

Puzzle 3 is to fold a  $2 \times 2$  square that is entirely light gray on one side and entirely white on the other side. Puzzle 4, the hardest, is to fold a  $2 \times 2$  square that is entirely dark gray on one side and entirely white on the other side.

In all puzzles, you may fold anywhere, but you may not cut or tear.

