## Mastermorphix


a.k.a. Master Pyramorphinx

Left two: made by Mefferts 2009;
right two: made by Smaz Smart Toy Shop IQ Toys, Hong Kong, 2009.
(plastic, left 3.8 high", right three 2.75" high; left three all have the colors yellow, green, red /orange, blue)
A big brother to the Pyramorphix. Each of the 6 edges of this puzzle can twist. If one stays limited to 180 degree turns of the edges, then this is a puzzle of mixing up the colors and then restoring them, where the puzzle always has its correct shape. However, the fun begins when you employ 90 degree turns to transform the puzzle into a jumbled mess; here are 4 moves using a black body version from Smaz:


This puzzle works like a Rubik's $3 x 3 x 3$ cube, where each of the 6 edges corresponds to a face of Rubik's $3 \times 3 \times 3$, the four vertices of the Mastermorphix correspond to 4 non-adjacent corners of Rubik's $3 \times 3 \times 3$ (e.g., two diagonally opposite corners on top and two diagonally opposite corners in the other direction on the bottom), and the four faces of the Mastermorphix correspond to the other 4 corners of Rubik's $3 \times 3 \times 3$ (where a face corresponding to a corner includes a triangular half of each of the three faces incident to that corner). That is, imagine the 6 edges of the Mastermorphix running diagonally across each face of the 6 faces of the cube, where the 6 center pieces of the edges of the Mastermorphix correspond to the 6 centers of the cube, the 4 tips of the Mastermorphix together with the four centers of the Mastermorphix correspond to the eight corners of the cube, and the remaining 12 face sections of the Mastermorphix correspond to the 12 edges of the cube). So any solution for Rubik's $3 \times 3 \times 3$ can be used, but in practice this puzzle can be very connfusing when mixed up into a jumbled shape, until one gets used to looking at it. In a theme similar to the Skewb Egg, just getting the shape back with the single color gold version is a challenge.

