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Shelly Smith* (smithshe@gvsu.edu). *The Optimal Origami Box.*

Tired of cutting the corners out of a rectangle to make a box with the largest volume? Put away your scissors! Unfolding an origami box reveals creases that create squares, rectangles, and congruent triangles. We use two approaches to optimization: First, students use experimental data and regression models to predict the optimal dimensions to maximize volume. Next, students use features present in the unfolded box to create a theoretical model for comparison purposes. This activity is appropriate for lessons on modeling and optimization in college algebra and calculus courses. (Received September 18, 2006)