

How Folding Paper Creates Mathematics

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Abstract

Mathematics is often seen as something that lives on a page, written with symbols and equations. In this workshop, we will instead explore mathematics through the art of paper folding. In particular, we will examine criteria for flat-foldability, that is, the conditions under which a given crease pattern can be folded flat and pressed inside a book without crumpling. Through hands-on folding, we will formulate conjectures, test their validity, and prove some of them together. No advanced mathematical background or prior experience with origami is required. All that is needed is curiosity and a willingness to fold paper. Participants will create an origami model and take home not only the folded model, but also the mathematical ideas that emerge from the folding process.