

Origami, Shapes, and You!



MIT Splash

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Introduction

- ▶ Origami, derived from the words “oru” (meaning to fold) and “kami” (paper) is the art of paper folding. Origami is a traditionally Japanese art form, and began around the 7th century, when paper making and folding techniques were first brought to Japan via China.



Impact of Origami

- ▶ The introduction of paper and its folding techniques had a profound effect on Japanese culture, influencing areas such as architecture, art, and even traditions and rituals.
- ▶ Nowadays, origami can be found in all sorts of places ranging from architecture to science! Take a look at this satellite!



Action Origami

- ▶ Action Origami is one of the most popular forms of Origami. These models not only cover still-life, there are also moving objects; Origami can move in clever ways. The traditional Japanese flapping bird is a common form of action origami.



Wet Folding

- ▶ Wet-folding is an origami technique for producing models with curves, rather than simple straight folds and flat surfaces. The paper is dampened so it can be molded easily, and the final model keeps its shape when it dries.



Modular Origami

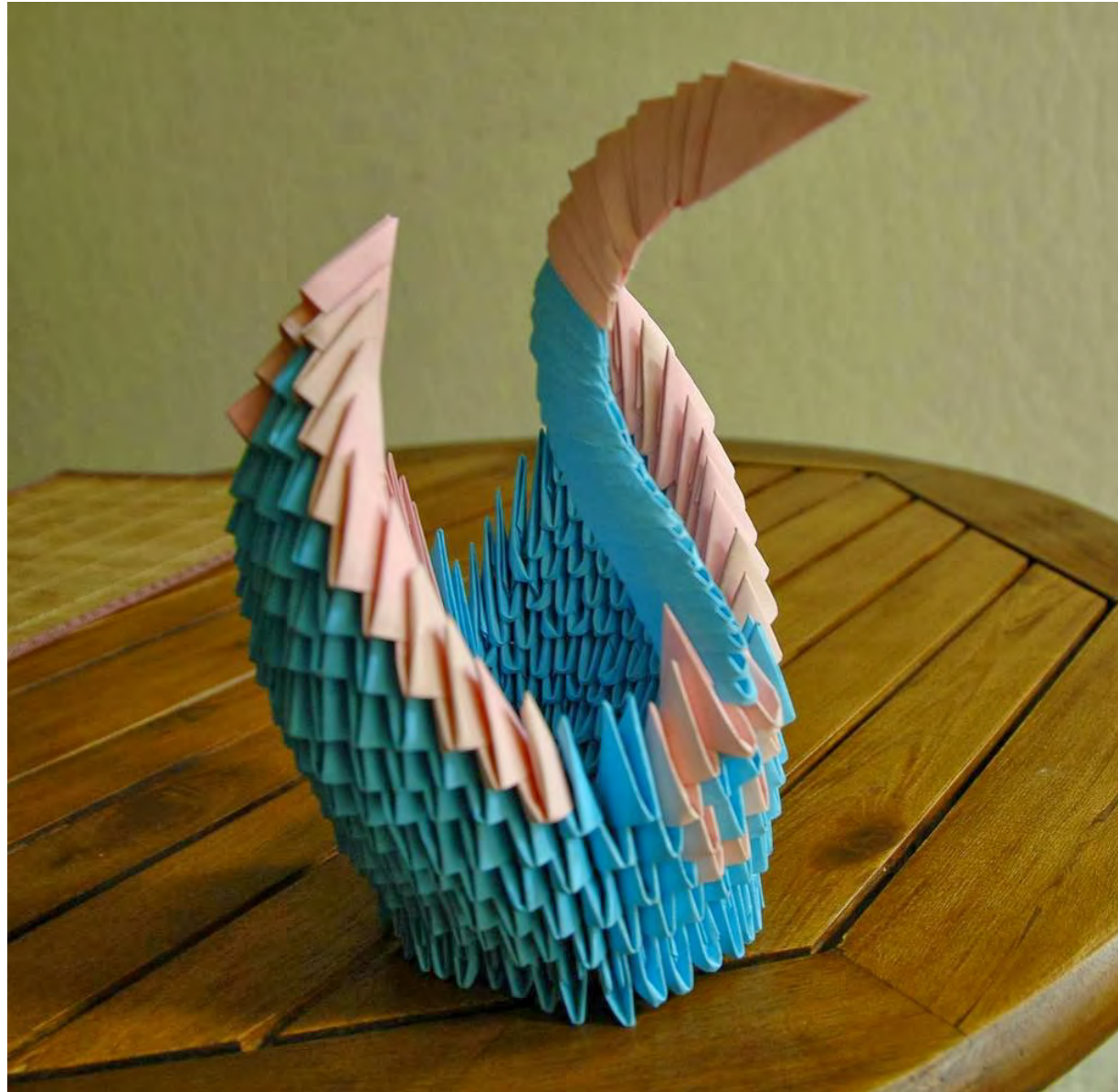
- ▶ Modular origami is a form where a person puts a number of identically folding paper together that eventually forms a completed model. The individual pieces are often simple, with the true challenge in putting together the model.



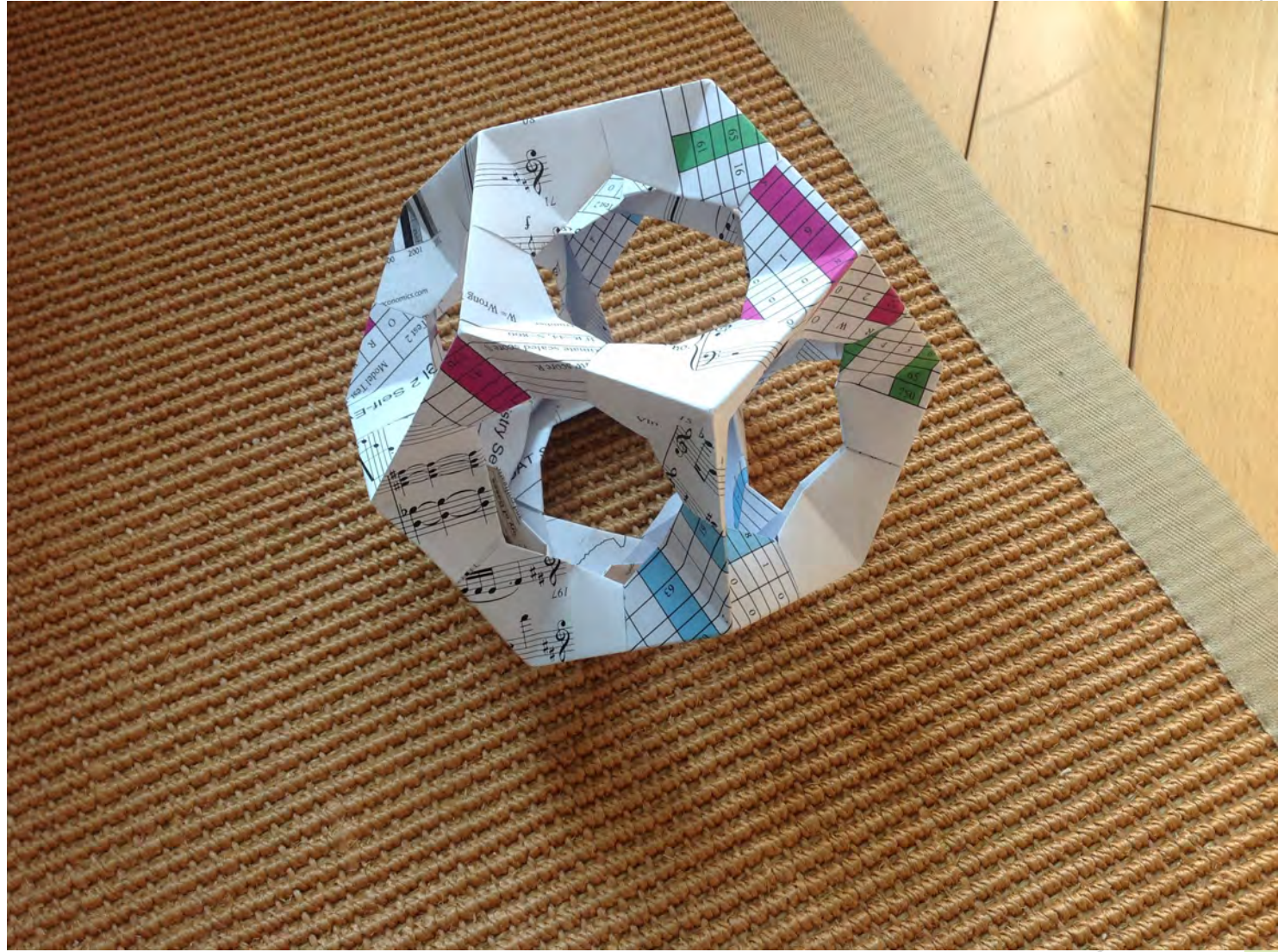


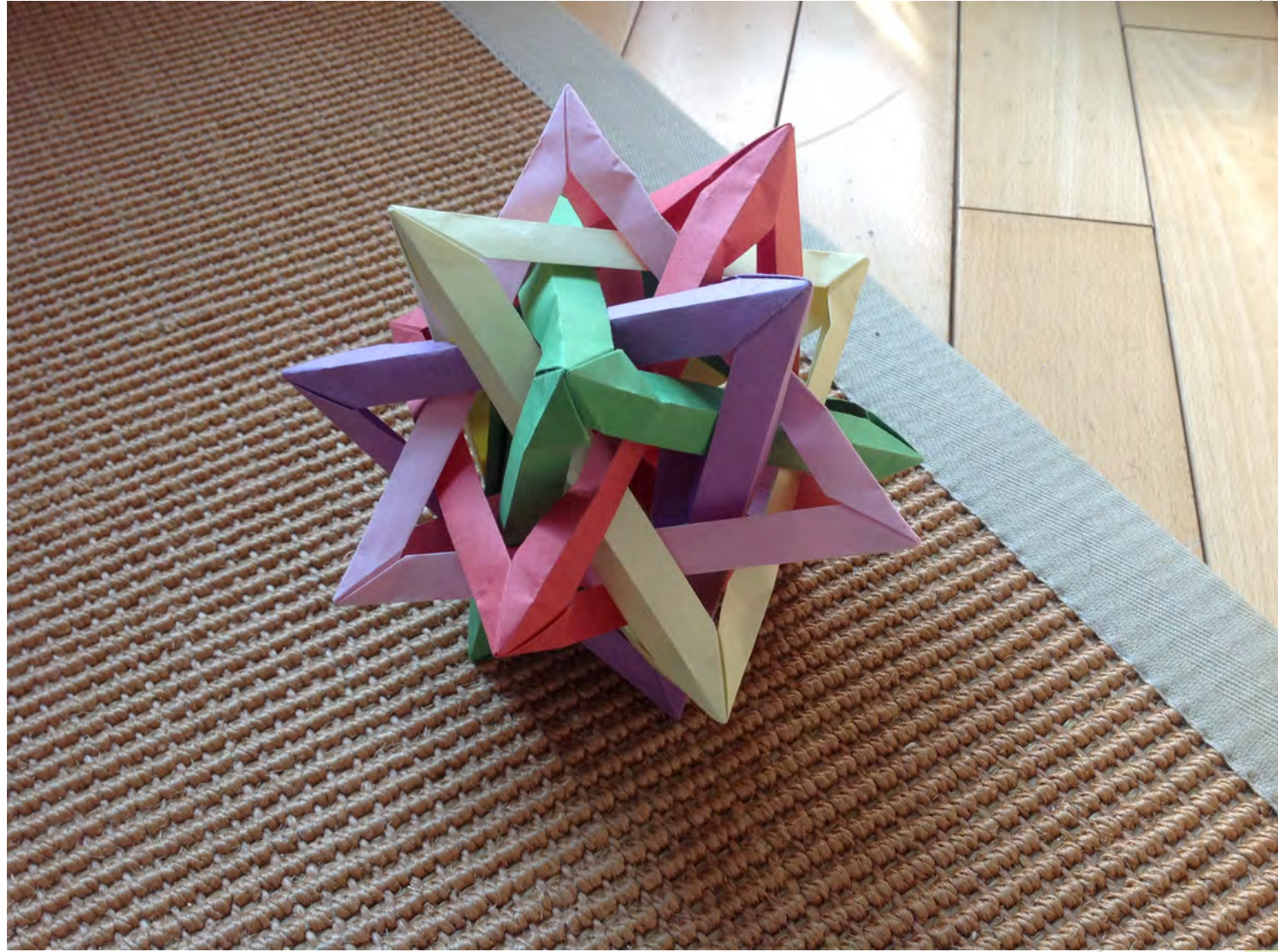
Photo © OrigamiSpirit.com





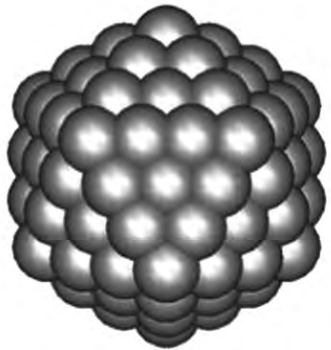




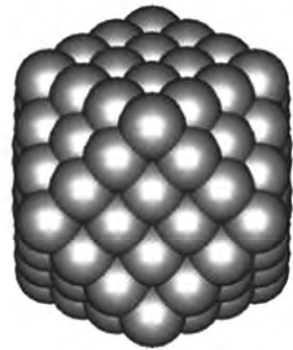




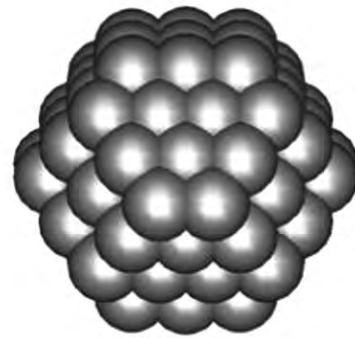
From Modular Origami to Nanotechnology



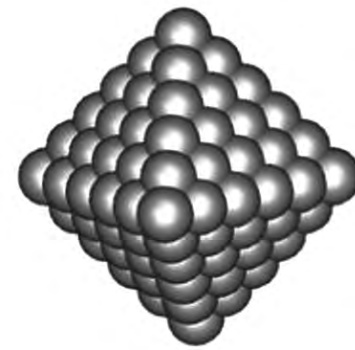
Icosahedron



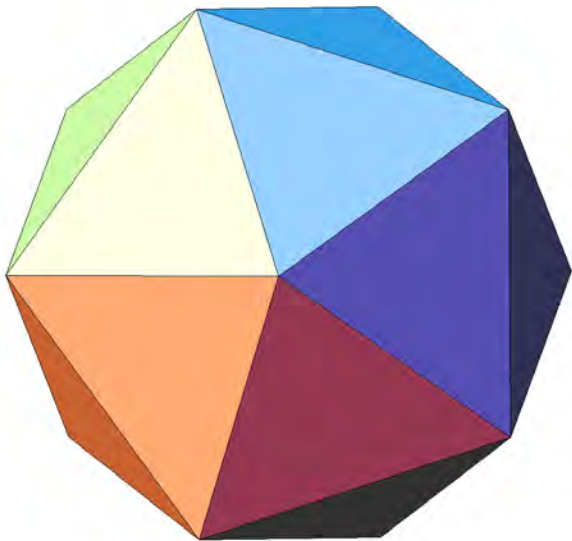
Cuboctahedron



Truncated Octahedron



Octahedron



Nanoparticles in Real Life



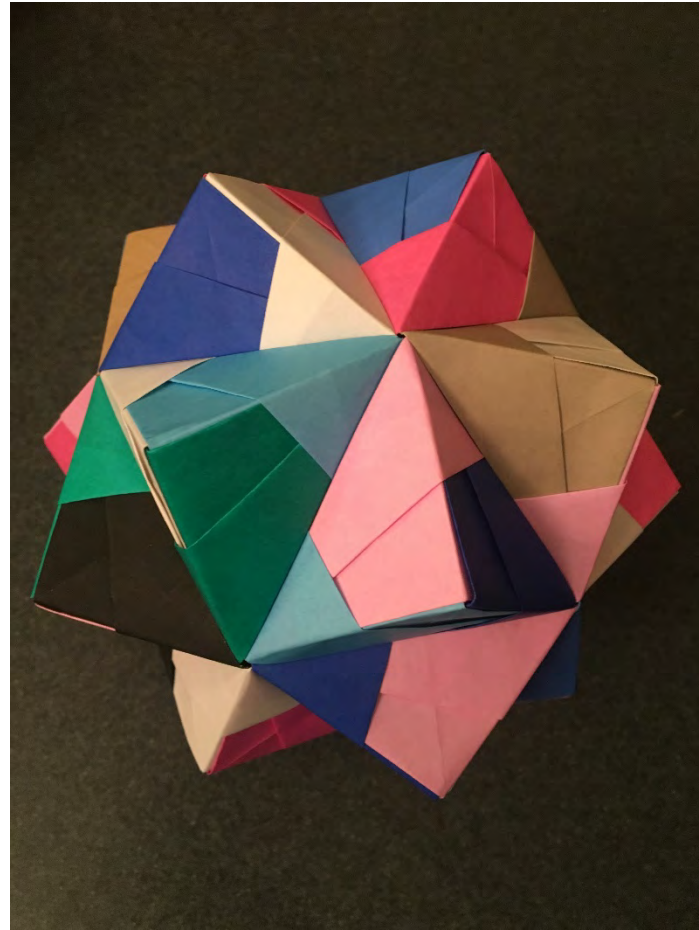
Sonobe Cube Lamp (6 Units)



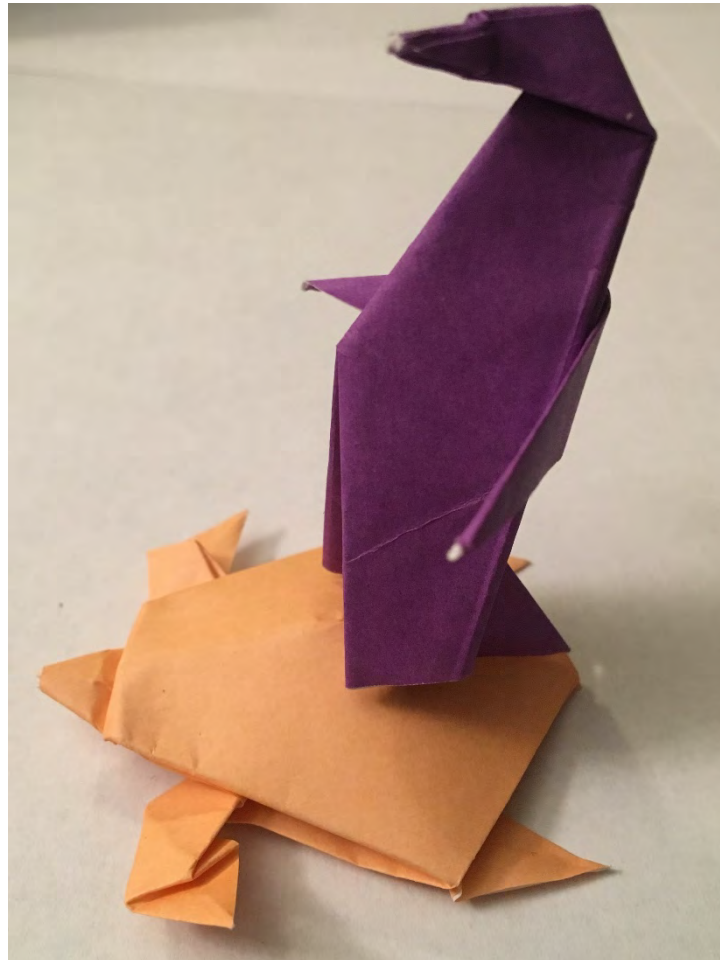
Stellated Octahedron (12 Units)



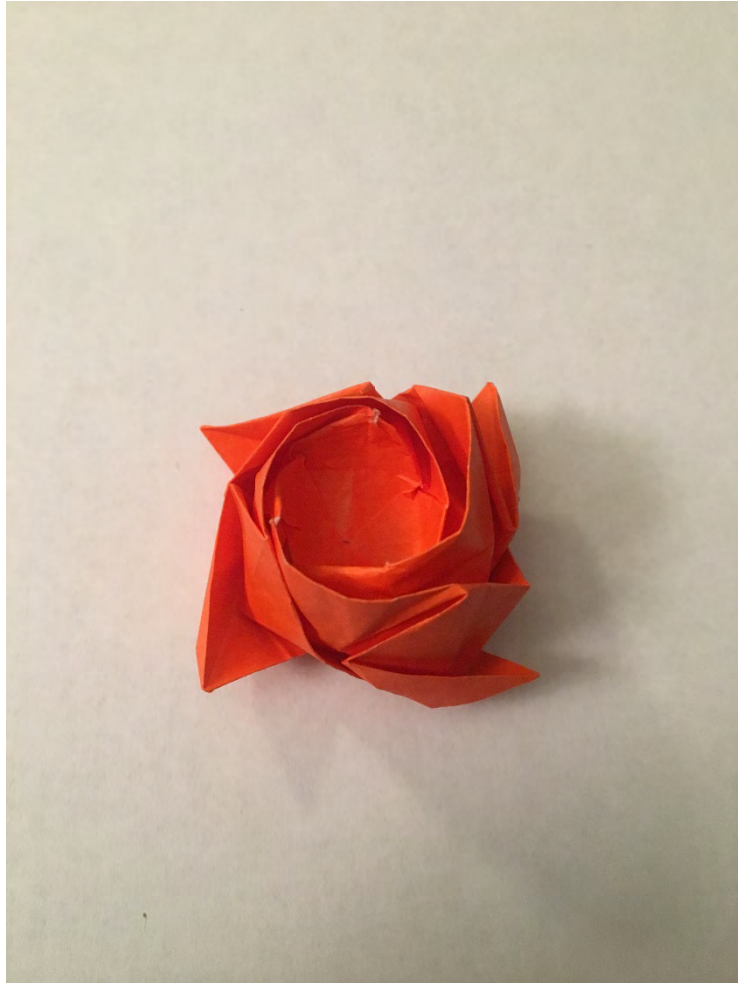
Stellated Icosahedron (30 Units)



Penguin and Turtle



Kawasaki Rose



Some Tips for Folding!

- ▶ The key to origami is small, uncomplicated folds.
- ▶ Precision goes a long way, especially when there are many folds!
- ▶ Fold each crease very well.
- ▶ Follow the instructions.
- ▶ Be patient.
- ▶ Have fun!

Folding the Sonobe Unit



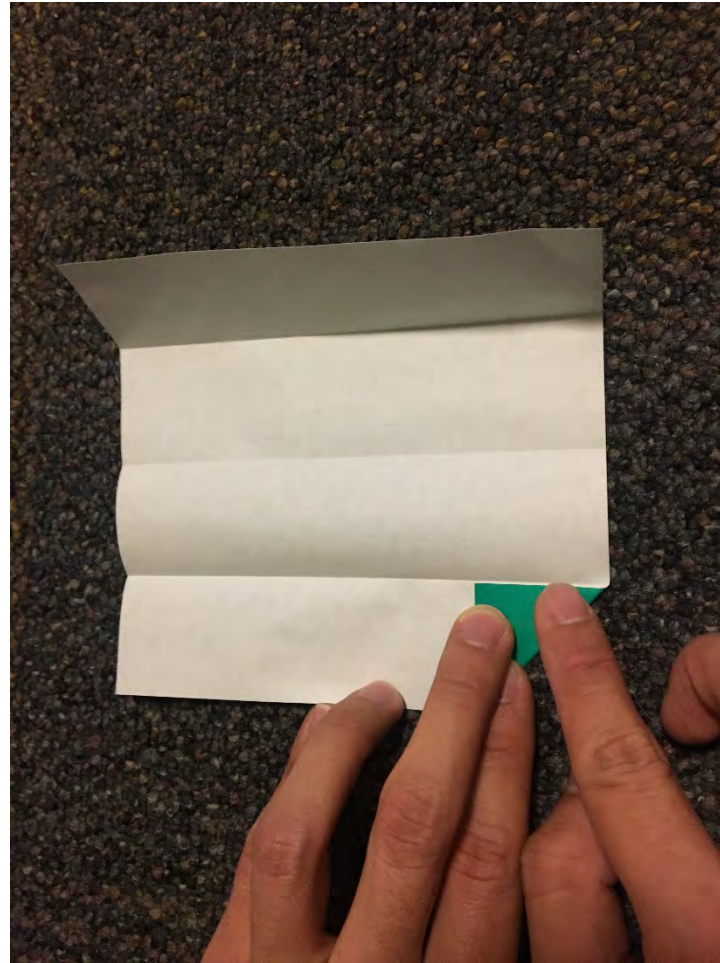
Folding the Sonobe Unit



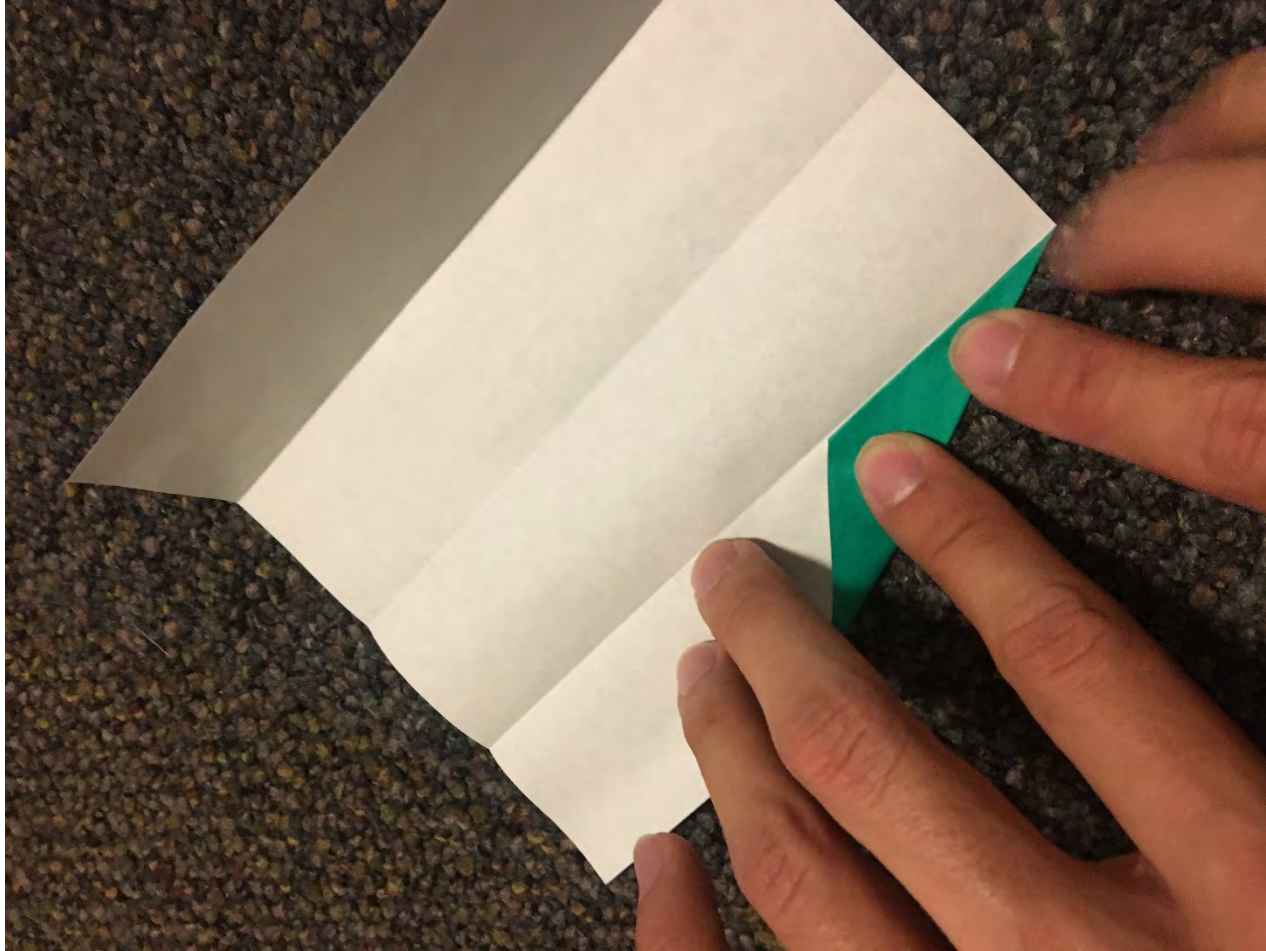
Folding the Sonobe Unit



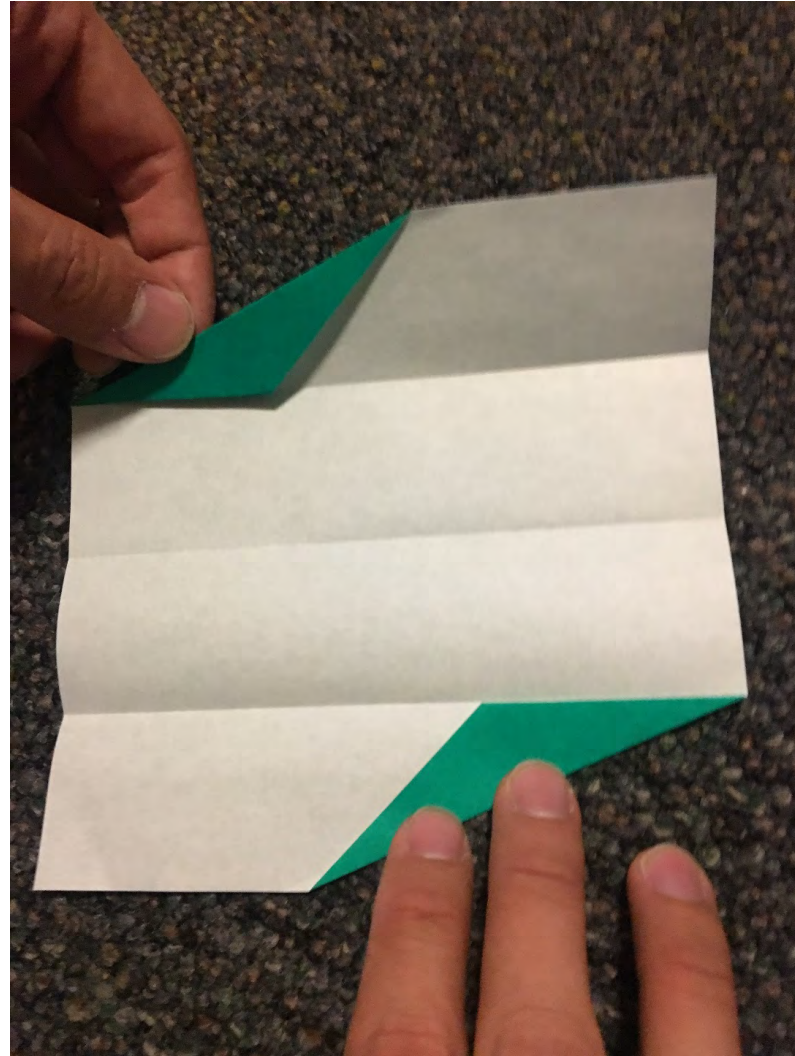
Folding the Sonobe Unit



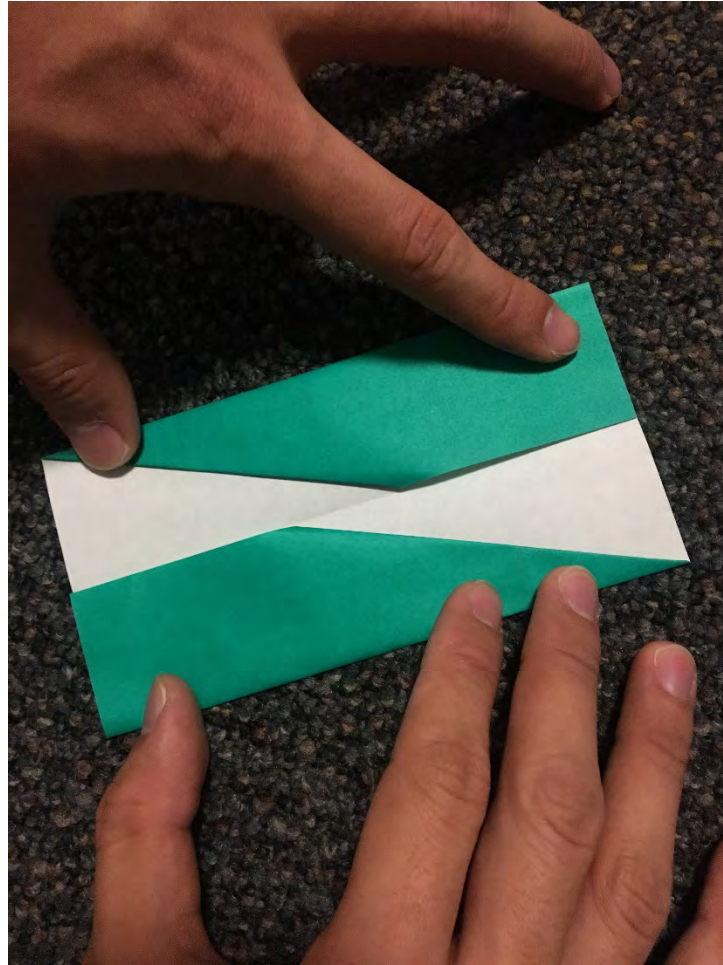
Folding the Sonobe Unit



Folding the Sonobe Unit



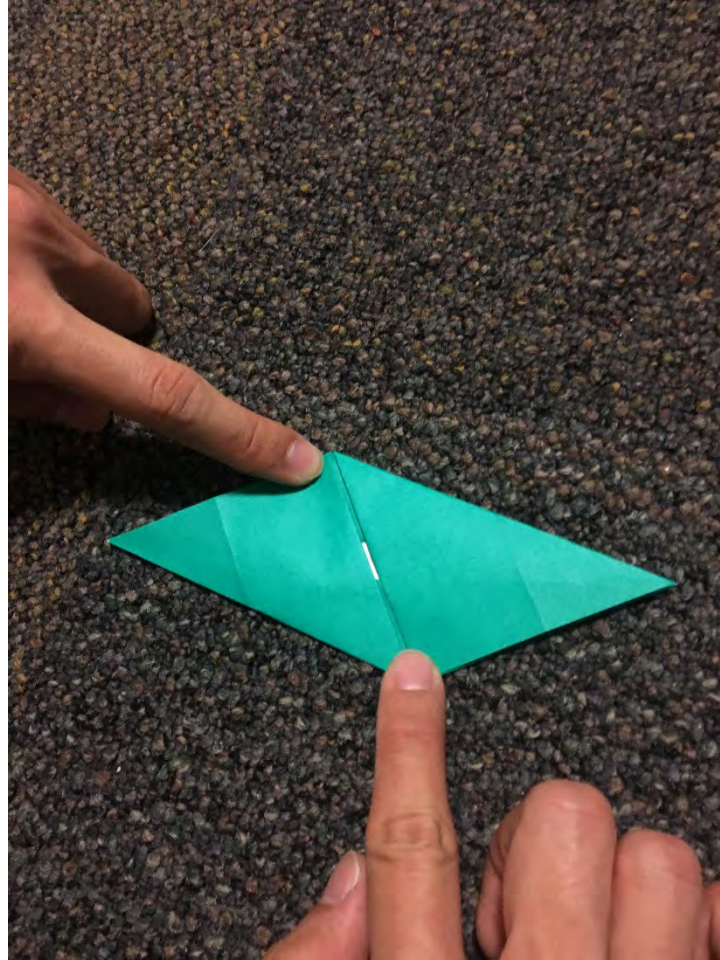
Folding the Sonobe Unit



Folding the Sonobe Unit



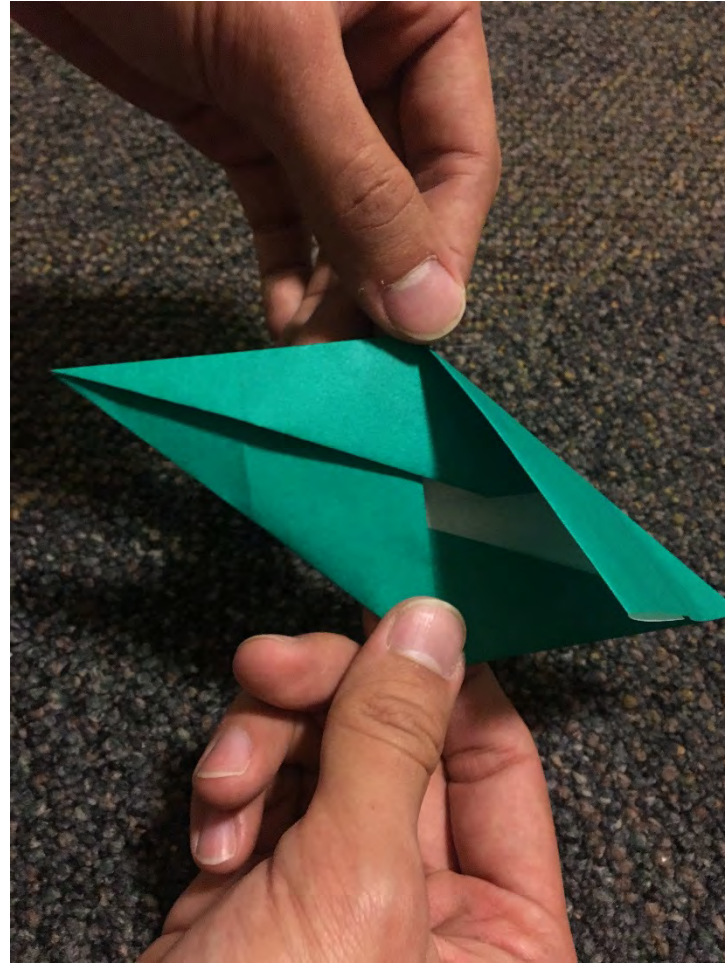
Folding the Sonobe Unit



Folding the Sonobe Unit



Folding the Sonobe Unit



Folding the Sonobe Unit



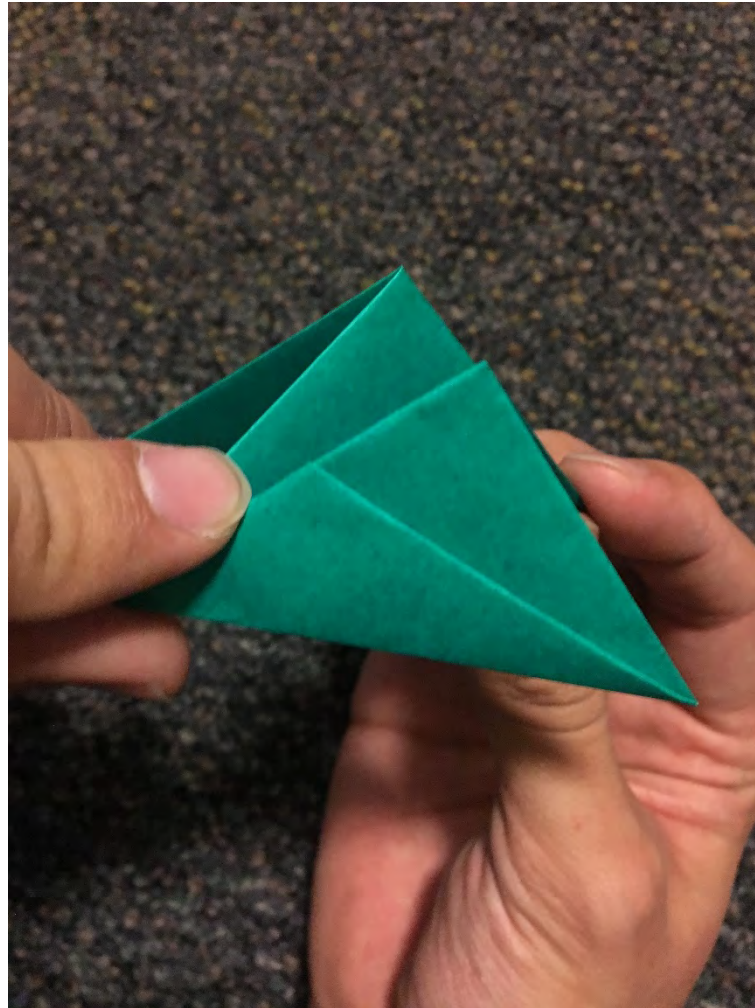
Folding the Sonobe Unit



Folding the Sonobe Unit



Folding the Sonobe Unit



Folding the Sonobe Unit - Complete!

