

Folding the Future: How Origami is Transforming Engineering

Origami, the Japanese art of paper folding, is finding surprising applications in science and engineering. Going far beyond folding paper planes, engineers now use origami to create self-assembling robots, designer materials and large deployable structures in space. In this talk Mark Schenk, a lecturer in the Department of Aerospace Engineering, explores how origami is transforming science and engineering, and reveals some of the elegant underlying mathematical principles of origami.

Questions to consider before watching the video:

- Can you think of why origami would be of interest to aerospace engineers?
- What kind of applications could you imagine?

Questions to consider during the video:

- You can see a lot of potential applications of origami in engineering in the presentation. What special feature of origami is used in many of these applications?

Reflection:

- What did you think was the most surprising application of origami?
- What kind of mathematics do you think you need for origami?

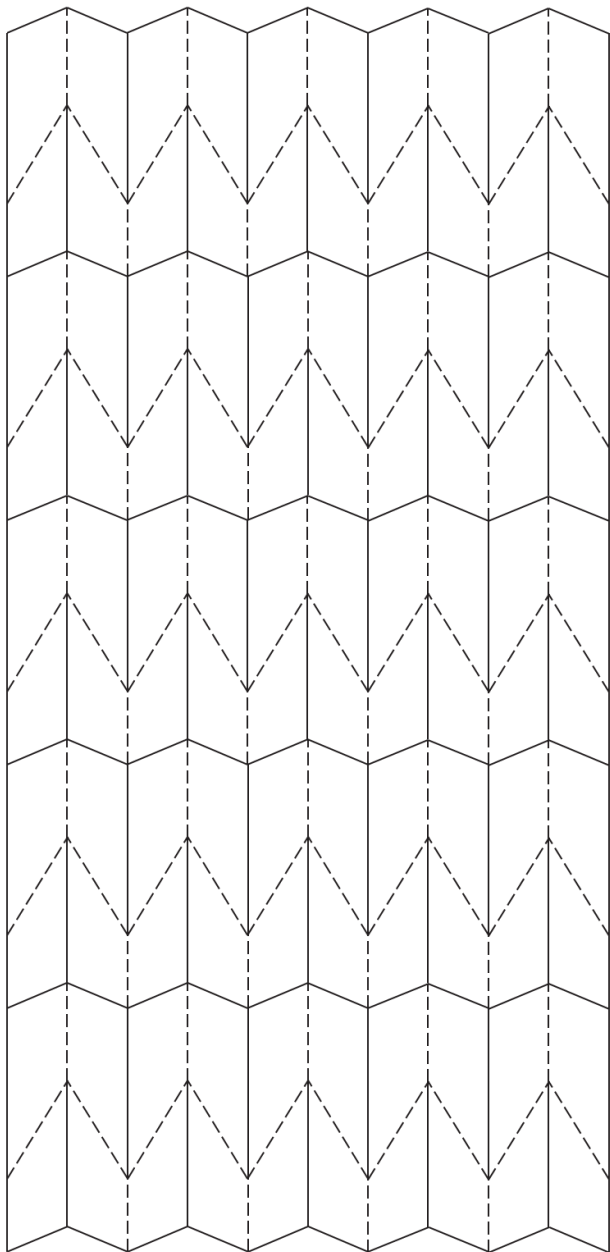
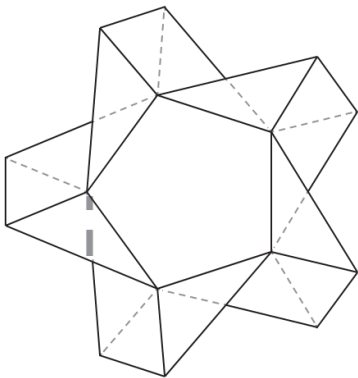
Resources:

- [Fold origami online](#)
- [The Math and Magic of Origami](#): TED talk by Robert Lang (one of the world's premier origami artists and scientists)
- [Engineering with Origami](#): video by Veritasium

Below are two fold patterns which people can fold at home:

1. Print the pattern on regular printing paper
2. Score the fold lines, for example by tracing them with a ball-point pen
3. Fold it...

Pentagonal Miura



cylinder axis

cylinder circumference

