# Origami Mathematics

The first session of the year at the ATM London offered an insight into how origami can be used as a tool to teach mathematics. This creative session was led by Tung Ken Lam who demonstrated ways to probe questions using origami as a starting point and offered us plenty of opportunity to practise multiple folding ourselves.

We started with a very simple idea about the proportion of paper size and were asked to fold A4 paper into 16 similar rectangles and shown how this can be an excellent resource to use when teaching fractions, such as demonstrating multiplication and division.

The knowledge that the width and height of A4 paper has a proportion of 1 to $\sqrt{2}$ and that A0 has an area of 1m² acted as a catalyst for some higher order questions which students could explore. A particular favourite was when we inserted two 4x4 folded A4 sheets of paper together to form two hollow cuboids:
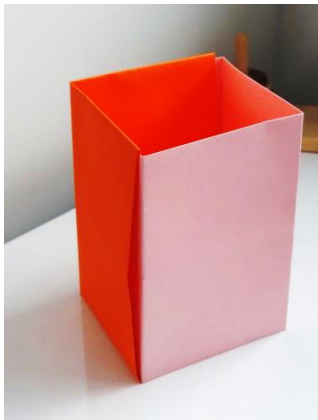
Then we were posed the question: Do they have the same volume? We worked with fractions, algebra and surds to investigate this.

Next, we were able to construct some models ourselves. We were given two completed models and, with permission to take just one apart, we were challenged to recreate the original. This reconstruction task could be used in a classroom. Students can be asked to write assembly instructions for their model for another group to try out.

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