

## MAKING CARDS AS MATERIALS FOR TEACHING SPATIAL FIGURES

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PAPER ARCHITECT

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### Short description of the workshop: aims and underlying ideas

A static figure is used in the learning of plane figures. In contrast, it is important to present shapes with spatial extent and dynamic movement when teaching spatial figures. The following are the advantages of using the creation of pop-up cards as a teaching material. When making a card, a three-dimensional card is completed by trial and error, making a cut in a plane (the card), and opening and closing the folded card repeatedly. In this fabrication process, instruction connects the plane figures with the spatial figures. A popup card, called "origamic architecture," is especially effective as a teaching material for this purpose. When you open a card that is folded in two, to 90 °, a three-dimensional object appears. When you flatten the card, it is returned to its original state.

To see works of origamic architecture, please refer to this website <http://www.japandesign.ne.jp/IAA/chatani/>

of Masahiro Chatani. Now, there are a lot of lovers of origamic architecture all over the world.

### Planned structure:

Planned timeline	Topic	Material / Working format / presenter
20 minutes	How to make works and mathematical explanation about them	Kazumi Yamada Takaaki Kihara
55 minutes	Participants will make many works. The paper architect Kihara will explain how to make works individually at this time.	Kazumi Yamada Takaaki Kihara
15 minutes	Question and answer	Kazumi Yamada Takaaki Kihara