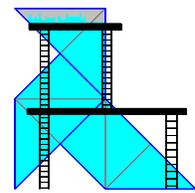


Scaffold

Helping to support and maintain the world of origami



Holidays are coming

Next month's issue of Scaffold will have holiday-related designs for your folding pleasure.

Submissions

If you have designed an original model, Scaffold is a place to share it with the world. You may have shared your model with a local origami club or even placed it on a website, but that doesn't mean you shouldn't also utilize Scaffold.

Scaffold will showcase any models that are sent in. It is Scaffold's purpose to share original models, not judge them. Electronic submissions are preferable, but paper can also be used (but it will take a little longer to get into an issue).

The preferred submission format is the generic drawing format DXF (it makes the smallest files and is available in many vector drawing

programs such as CAD), but most formats are acceptable. Please try to make your files as small as possible as it will speed downloading time for the issue. Electronic submissions should be sent to scaffold1@aol.com while printed submissions should be sent to:

Joshua Koppel
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Chicago, IL 60664-1374
U.S.A.

Book Review

One of the books I purchased last month was PAPIROFLEXIA: A VUELTAS CON EL PAPEL by Luis Bas Arrachea y Felipe Moreno Salinas. This is a collection of models from the Grupo ZaragozanoDe Papiroflexia (the Zaragoza Group of Paperfolding). This is not a new book (1993), but it is currently on sale through Origami USA (<http://www.origami-usa.org/>).

This book is a wonderful collection of models from twenty members of the group. The ideas and folding techniques vary greatly, although the diagrams have been drawn by a common hand. There are animals of all sorts, objects, figures, planes and more. The models also range from the simple to the complex. The drawings are clear, uncluttered, and free of text. There is even a photo-illustrated history of the group provide in both Spanish as well as English.

This book has a delightful selection of models from many talented creators. It is an excellent addition to most any origami library. PAPIROFLEXIA is currently on sale for \$29 (US).

Diagraming Pt. III

The next easy method of quickly creating diagrams of your models is that of tracing. Tracing involves quickly creating drawings without having to measure lengths and angles. Tracing can be performed in many ways from manually, through semi-automated, all the way to completely automated.

The simplest manual method is connect-the-dots. At each step as you fold a model, place it flat on a piece of paper (or your computer screen) and make a dot at each point and fold. Then, simply connect the dots. This method does not work very well for folds that cannot be laid flat.

A different tracing method involves placing the fold under glass. Put your paper on top of the glass and trace the fold. You can make this easier by shining light behind the glass (very easy to do if you have a glass-topped table).

The next method of tracing involves the use of an opaque projector. Opaque projectors are available though many art supply

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stores and have become reasonably priced (you can get one for \$15-\$25 US). Simply place each step of your fold under the projector, and project it onto your paper. The projector will shine a color image of your model on the paper. Trace away.

There are cheaper versions of the opaque projector that work by having the artist look through a tilted piece of glass. While looking at the paper, a faint reflection of the model will be seen on the glass. This method works well, but you have to hold your head steady to keep the reflected image properly aligned on the paper.

Copy machines and scanners can automatically trace your folds. Scanners usually give a clearer picture and the images can be edited electronically to include arrows, fold lines, text etc.

Taking pictures of your model and then using the picture or tracing it, is a workable solution, but hardly the best. Instant film gets very expensive, very quickly. Conventional film takes more time and can be a hassle.

Digital cameras can take clear pictures of each step. These pictures can be edited electronically to include arrows, fold lines, text etc. These pictures are available immediately after taking them and need not be printed on expensive paper. Unfortunately, good digital cameras are still rather expensive.

Video cameras can be used to record a series of folds, but this works best for archiving. Video tapes are laborious to reproduce, are easily damaged and require specific-format machines to access them. Video images also lack folding lines, arrows, etc. and are very hard to edit. Video also requires good attention to cinematography (lighting, zoom, framing, etc.).

Digital video cameras will produce images that are easier to edit

and share than straight video. Like standard video, digital video also requires good attention to cinematography (lighting, zoom, framing, etc.). Once again, the equipment can be very expensive.

Complex Origami

Last week, I was made aware of a new origami website complete with diagrams of complex models. This site is put together by Hans Birkeland and showcases a number of his models. Not all of his models are complex, but if you are looking for a good folding challenge, Hans Birkeland's site has quite a few wonderful, complex models.

The site is located at <http://home.no.net/origami/> and contains a wide selection of models. These models include objects (vase, books), animals (seals, spotted pig), monsters (Little Devil, Pterosaur Gone Human), birds (Ostrich, Toucan), insects (Spiked Ant, Butterfly), sea life (Crab, Sea Urchin), and many other models.

New Books

A visit to Kim's Crane (<http://www.kimscrane.com>) resulted in another group of books being added to my collection. The books are as follows:

LA CREACION EN PAPIROFLEXIA by Vincente Palacios (Spanish) (ISBN84-7210-060-X)

NUOVI ORIGAMI by Pietro Mecchi (Italian) (ISBN88-412-6635-9)

PAPIROFLEXIA SELECTA by Vincente Palacios (Spanish) (ISBN84-7210-998-4)

PLAY WITH PAPER by Peter Budai (Hungarian and English) (ISBN3-00-006703-5)

The Models

This month we have another tribute, some modulars I created nearly ten-years ago and a creative response by one folder to another's design. These designs were previously printed in issues of FOLD (21 copies each). This is their first major appearance.

Space Capsule

This is the first model I ever designed as a tribute. I was ready to go to an origami meeting when I realized I needed a new model to show. A coworker's calendar showed that it was the xxth anniversary of the first American in orbit. Two minutes later I had my model.

Sonobe 1: Lanyard

This first unit, when built into a geometric, looks like it has had a thin lanyard wrapped around it.

Sonobe 2: Propeller

This second variation creates little propeller-like designs centered around the joints.

Sonobe 3: Attention

This third variation creates a symbol around the joints that makes me think of the various graphics used in warnings.

Sonobe 4: Crater

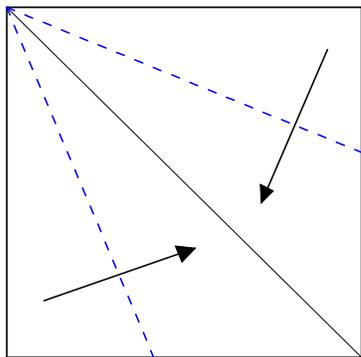
My fourth Sonobe Unit variation. This one results in a hole where the units come together. This version shows the easiest to reproduce angle.

Unit Template

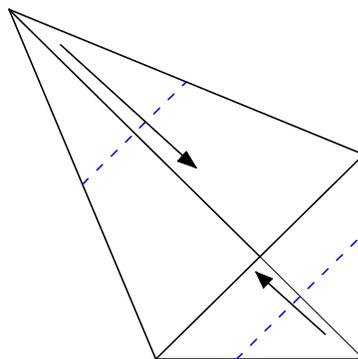
When I showed some of my Sonobe variations to the members of FOLD, Michael Naughton noticed that Variation 4 was actually only one of an entire class. Mr. Naughton designed a template so that any angle would be easy to reproduce.

Space Capsule by Joshua Koppel (Feb. 20, 1992)

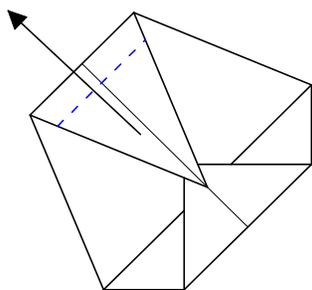
Created in honor of the 30th anniversary of the first American in orbit.



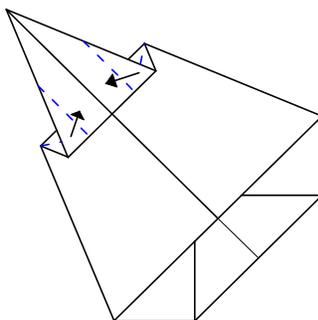
1. Fold edges to center.



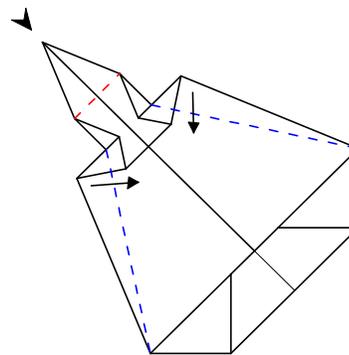
2. Valley fold points.



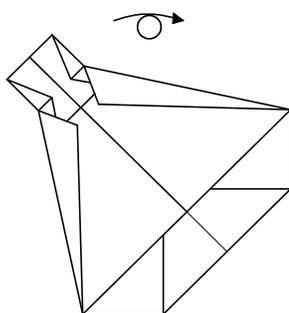
3. Fold point back out.



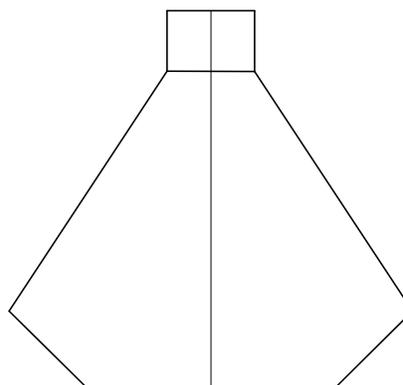
4. Squash points to narrow top



5. Sink point and folded edges in.

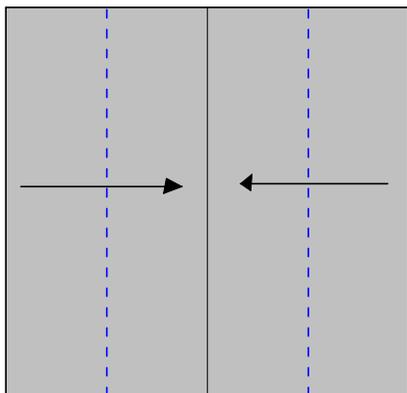


6. Turn over.

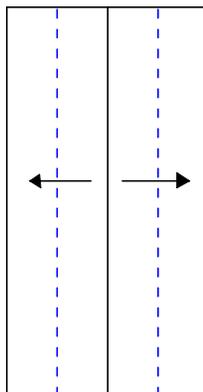


The completed space capsule.

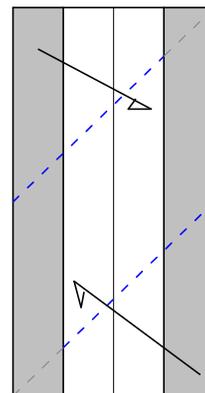
Sonobe 1: Lanyard by Joshua Koppel



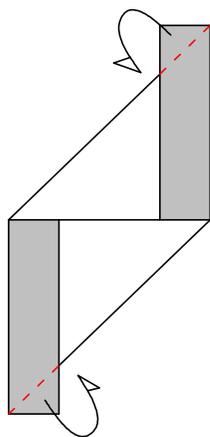
1. Fold edges to center.



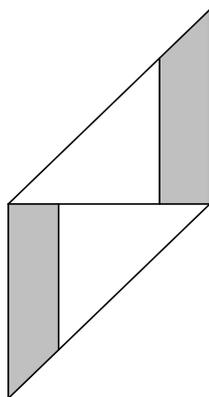
2. Fold edges out.



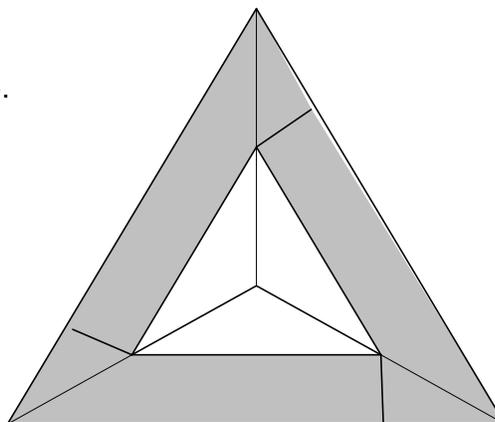
3. Fold short edges to long edges.



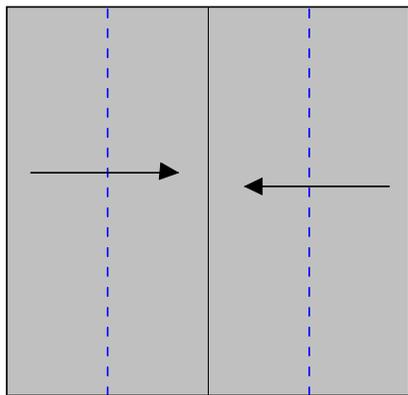
4. Tuck in points.



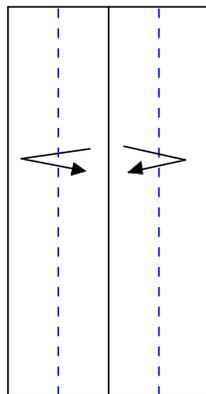
5. Completed Cap.



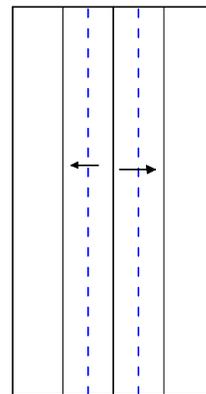
Sonobe 2: Propeller by Joshua Koppel



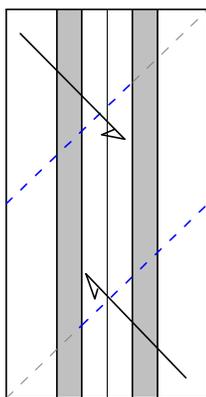
1. Fold edges to center.



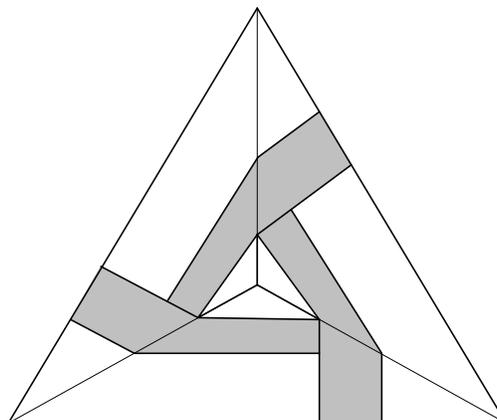
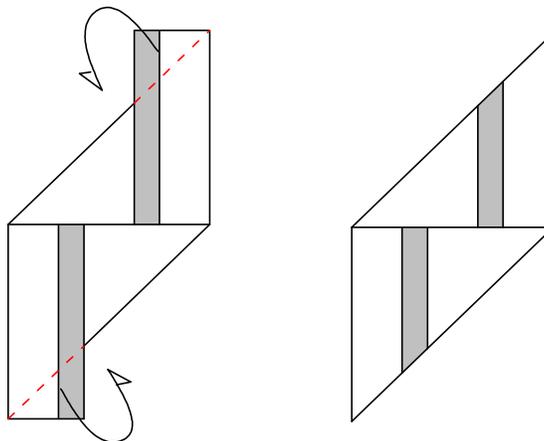
2. Fold edges out.
Unfold.



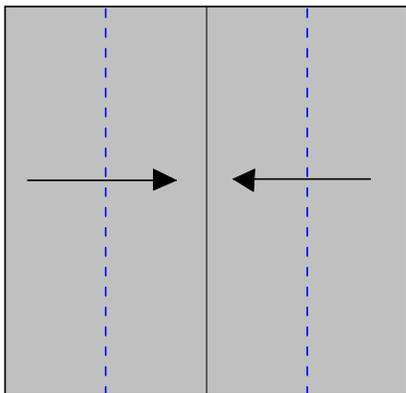
3. Fold edges to
line.



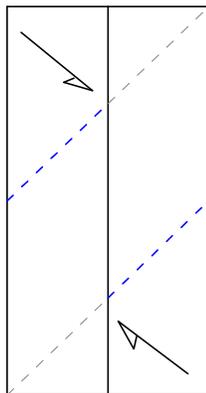
4. Tuck short edges under.



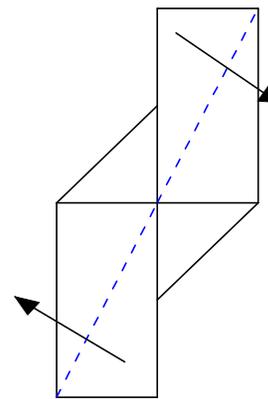
Sonobe 3: Attention by Joshua Koppel



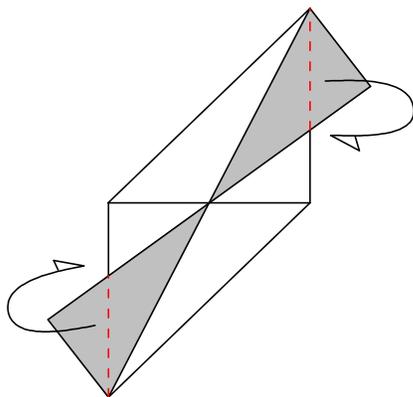
1. Fold edges to center.



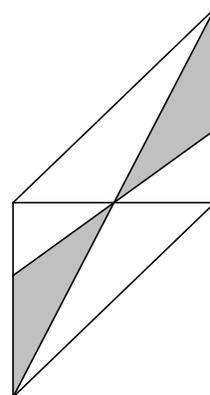
2. Tuck short edges under.



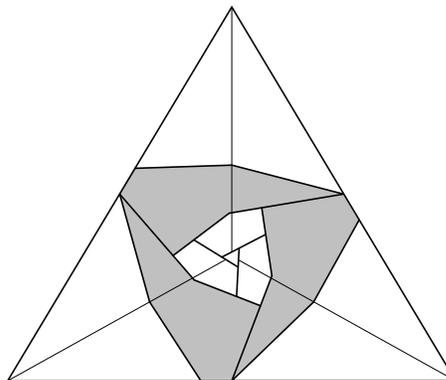
3. Fold flaps outward.



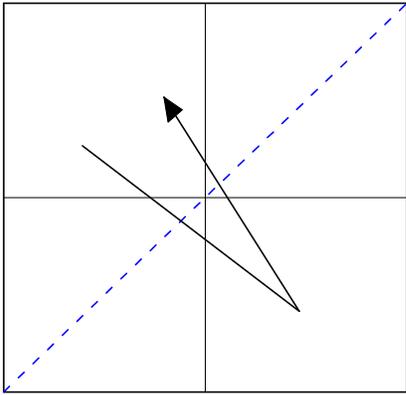
4. Fold points behind.



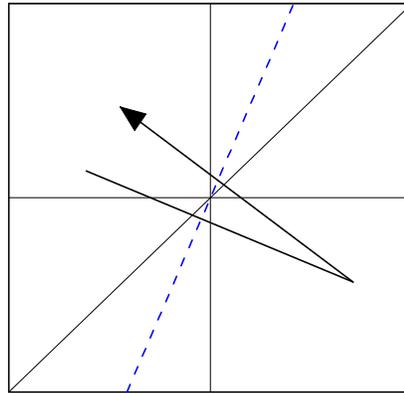
5. Done.



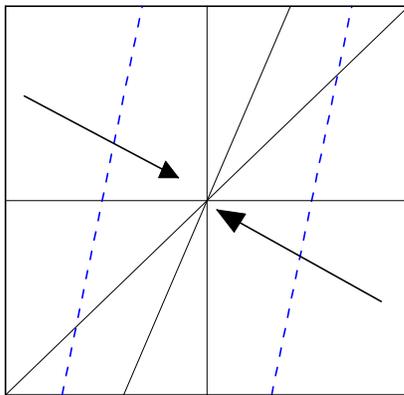
Sonobe 4: Crater by Joshua Koppel



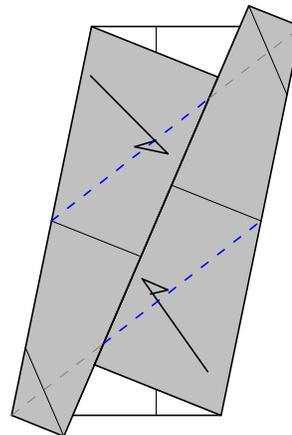
1. Mark diagonal.



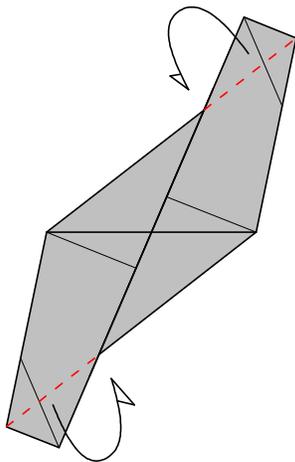
2. Bisect angle.



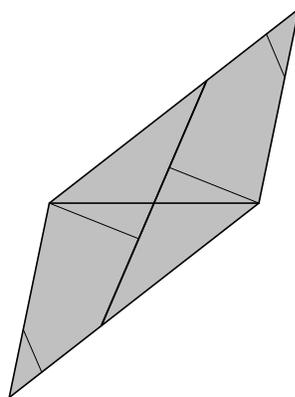
3 Fold edges to line created in Step 2.



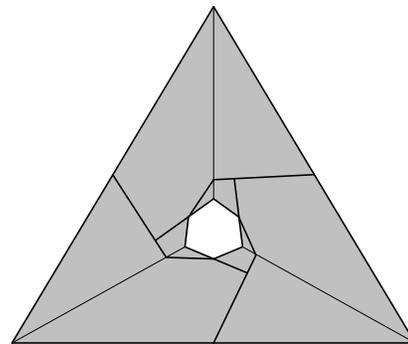
4. Tuck edges under.



5. Fold points behind.



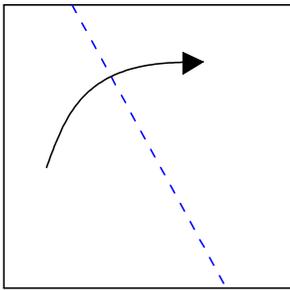
6. Done.



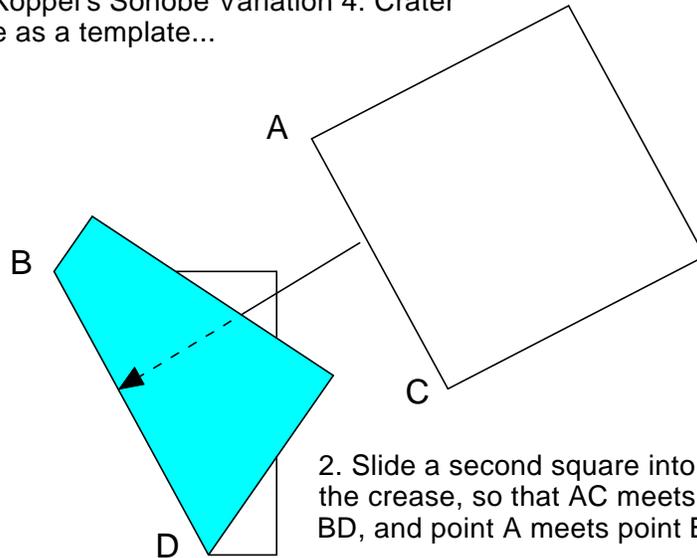
Finished unit has a hole where three units meet.

Template for Variation 4 by Michael Naughton (1992)

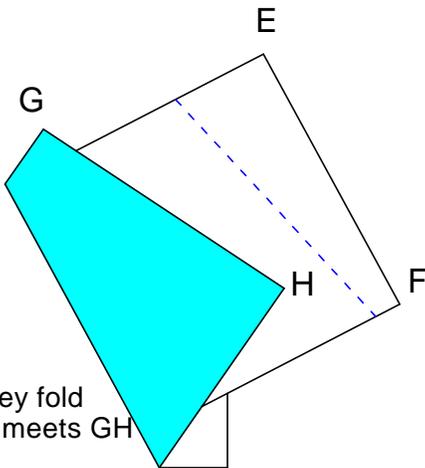
This is a template for Joshua Koppel's Sonobe Variation 4: Crater
Choose an extra square to use as a template...



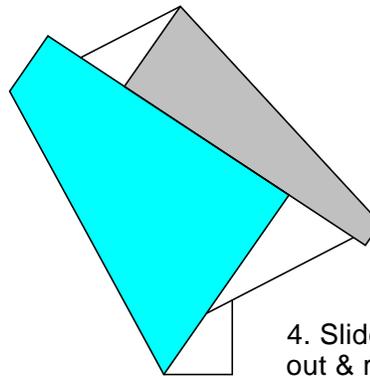
1. Select the line you wish to use as a guide & valley fold along this line. (Note: this line must go through the center of the square.)



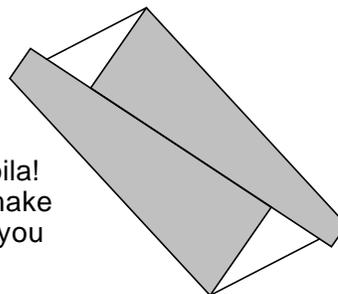
2. Slide a second square into the crease, so that AC meets BD, and point A meets point B.



3. Valley fold so EF meets GH



4. Slide second square out & repeat with other side.



5. Voila!
Use the template to make as many modules as you need.