



## Origami “Icosahedron” Vulture Enrichment

Submitted to Hose2Habitat 2020 Enrichment Contest  
By Oatland Island Wildlife Center, Savannah, Georgia



**General Information:** This enrichment can be used with all sorts of different animals. It is made of paper and is actually very sturdy. It can be filled with a multitude of items, depending on what the specific animal likes to eat, or nothing at all and used as a ball to roll around. You can also add scent to the paper as well. There are many different types of origami patterns one can do.

This origami enrichment was made using scrapbook paper, but any paper can be used. The origami was filled with beef hearts and meal worms for the vultures to poke into and eat. Black vultures are curious birds, so this was a good enrichment for them because it elicited a sense of curiosity as well as allowed for them to use their long beak to poke into the enrichment to tear it apart to get to the food.

**Safety Concerns:** The only concern is if an animal wants to eat the paper. (No glue or tape was used with this enrichment.)

**Video:** A link to the video of the black vultures using this enrichment is below as well as attached to the email. as well as some photographs. <https://youtu.be/EpnusmIlyOw>

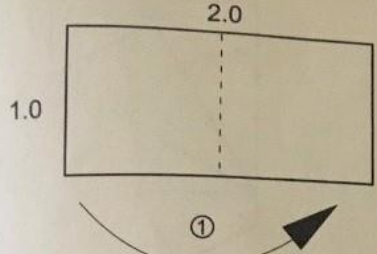


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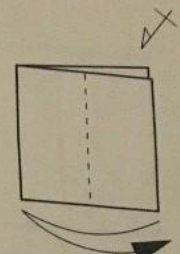
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**Instructions from:** *Beginner's Book of Modular Origami Polyhedra: The Platonic Solids*  
By Rona Gurkewitz and Bennett Arnstein

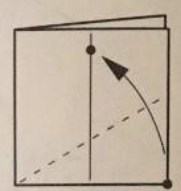
EQUILATERAL TRIANGLE EDGE MODULE  
by Lewis Simon and Bennett Arnstein



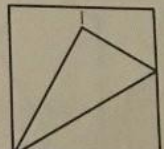
1. Start with a 2 by 1, (half square). Fold the left short edge to the right short edge.



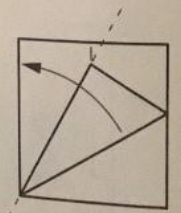
2. Fold the top right edge to the folded left edge. Unfold.



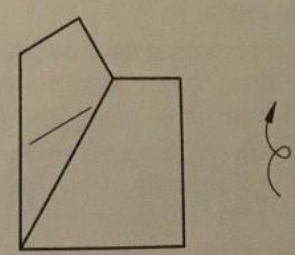
3. On the top layer only, make a crease that passes through the lower left corner, and makes the lower right corner touch the crease in the center.



4. Step 3 complete.



5. On the top layer only, fold the lower folded edge up against the left folded edge.

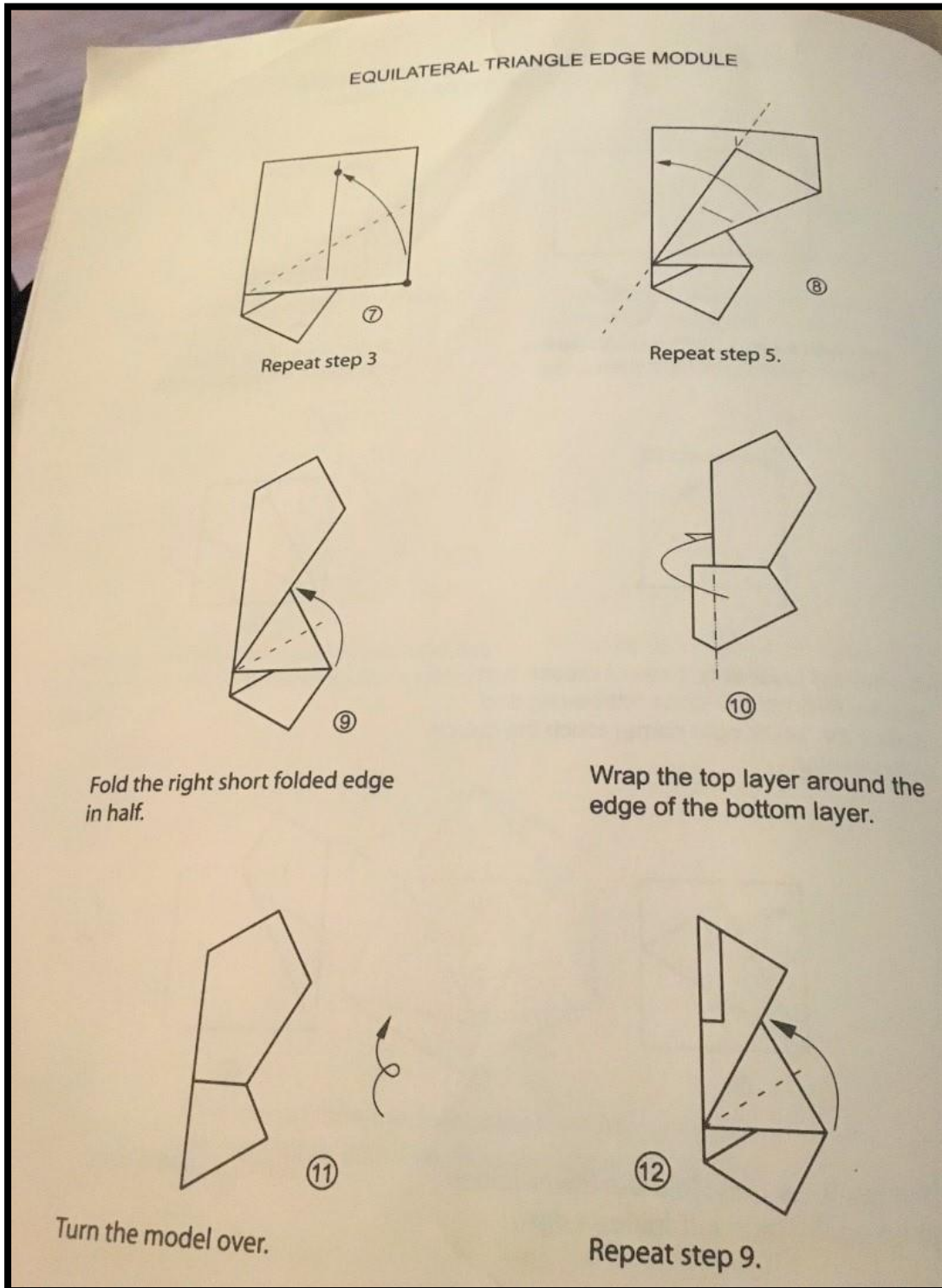


6. Turn the model over.



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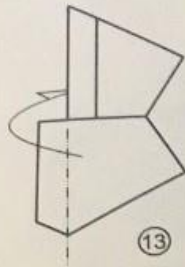




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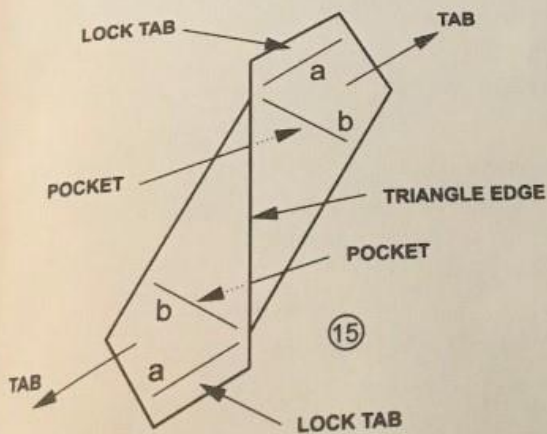
## EQUILATERAL TRIANGLE EDGE MODULE



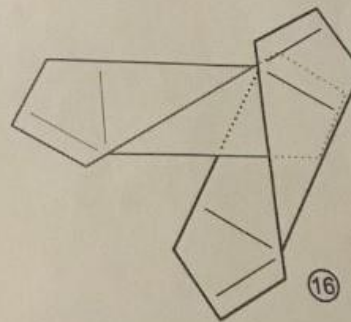
Wrap the top layer around the edge of the bottom layer.



The module is finished. Unfold to step 9 and then unfold the bottom layer.



Note parts of the module.



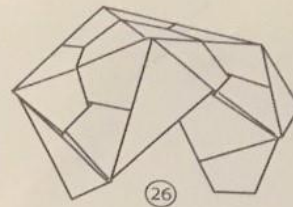
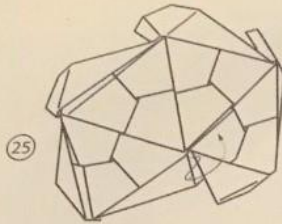
This shows a gray-line module inserted into a black-line module. Crease a on the entering module lines up with crease b on the receiving module. Crease b on the entering module lines up with the edge of the pocket on the receiving module. If the lock tab on the entering module cannot be used, fold it flat against the tab before inserting the tab into the pocket.



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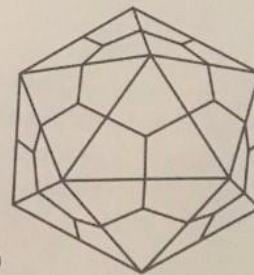
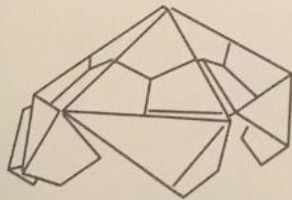
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## TRIANGLE EDGE MODULE



Add two modules to the assembly of step 21 of the octahedron (page 46) to make 4 triangle faces meeting at a vertex. Insert a tab from the fourth face into a pocket on the first face to start the fifth face. Every vertex of an icosahedron is formed by a five-sided pyramid.

Add one more module to finish the fifth face of the first 5-sided pyramid.



This completes the first 5-sided pyramid. Continue adding modules to make a 5-sided pyramid at each vertex.

Be sure to use the lock tabs to form temporary locks to keep the modules from coming apart, as explained in step 22 (page 46). The thirtieth module will finish the last two faces to complete the icosahedron. All the lock tabs will be used because the dihedral angle between the faces is open wide enough to allow the lock tabs to bend around crease b on the receiving module.