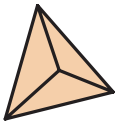
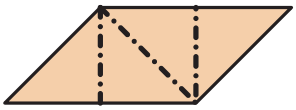
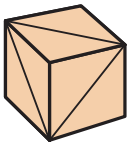
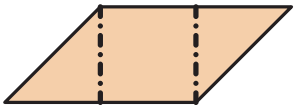
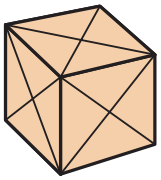
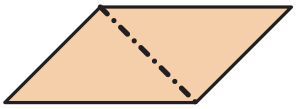
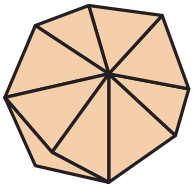
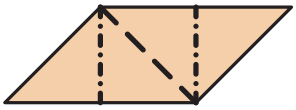
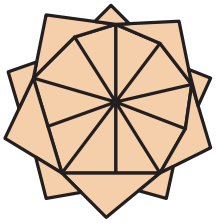
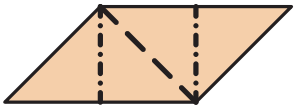
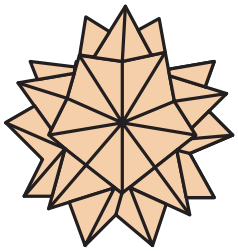
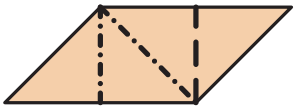
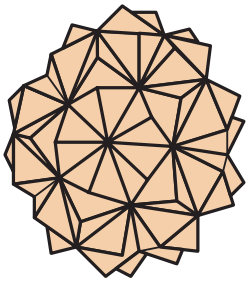
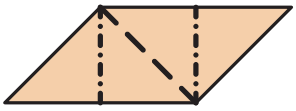
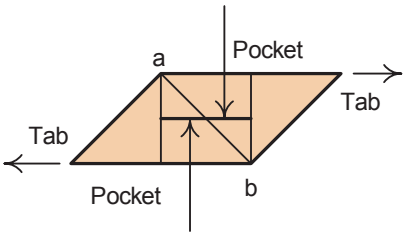
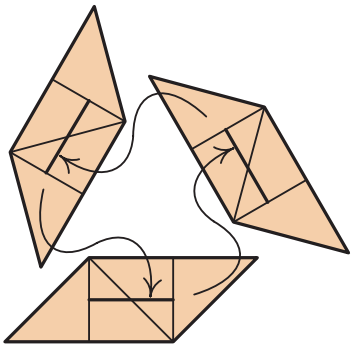
Model	Shape	# of Units to Fold	Finished Unit Crease Pattern
Toshie Takahama's Jewel		3	
Cube		6	
Large Cube		12	
Octahedral Assembly		12	
Icosahedral Assembly		30	
Spiked Pentakis Dodecahedral Assembly		60	
Dodecahedral Assembly		90	

Sonobe Assembly Basics

Sonobe assemblies are essentially "pyramidized" polyhedra, each pyramid consisting of three Sonobe units. The figure below shows a generic Sonobe unit and how to form one pyramid. When constructing a polyhedron, the key thing to remember is that the diagonal ab of each Sonobe unit will lie along an edge of the polyhedron.



A generic Sonobe unit representation



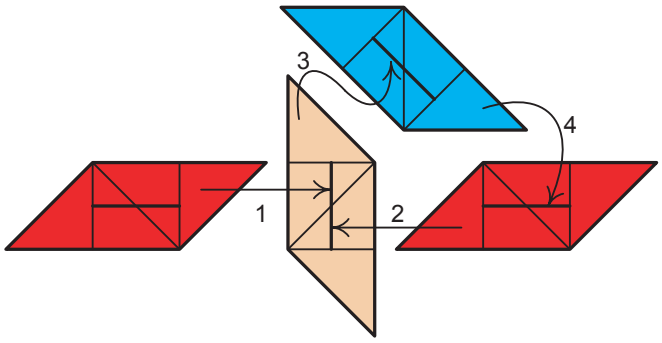
Forming one pyramid

Sonobe Assembly Guide for a Few Polyhedra

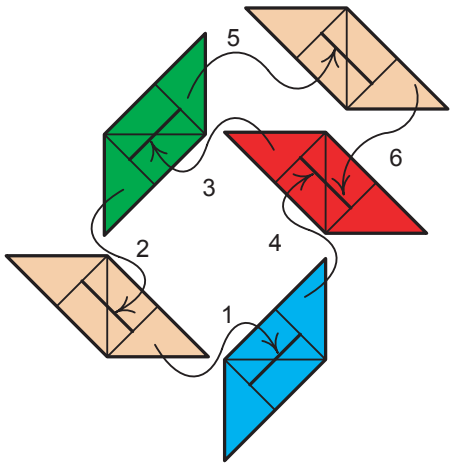
1. Toshie's Jewel: Crease three finished units as explained in the table on page 2. Form a pyramid as above. Then turn the assembly upside down and make another pyramid with the three loose tabs and pockets. This assembly is also sometimes known as a Crane Egg.

2. Cube Assembly: Crease six finished units as explained in the table on page 2.

Each face will be made up of the center square of one unit and the tabs of two other units. Do Steps 1 and 2 to form one face. Do Steps 3 and 4 to form one corner or vertex. Continue interlocking in this manner to arrive at the finished cube.



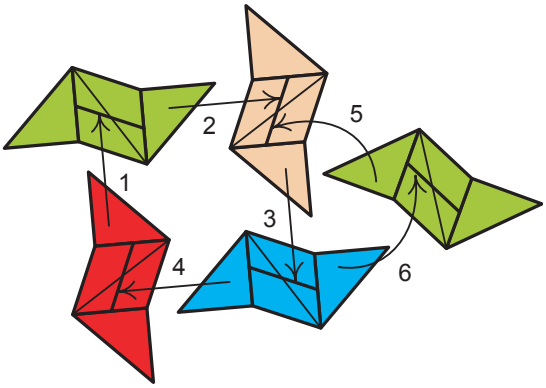
3. Large Cube Assembly: Crease 12 finished units as explained on page 2.



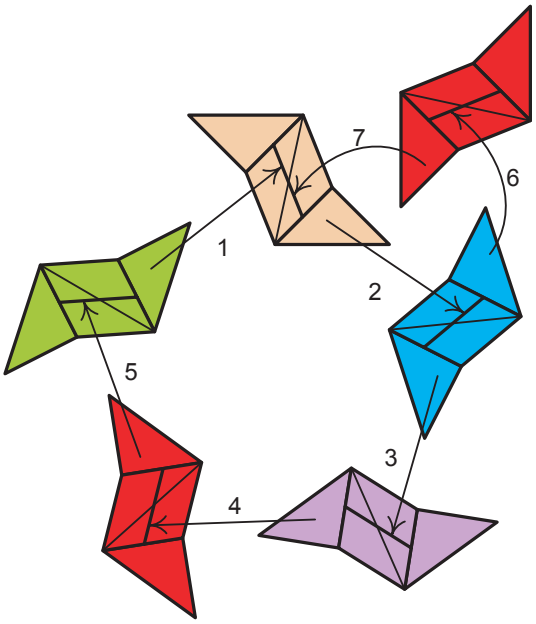
The 12-unit large cube is the only assembly that does not involve pyramidizing. Each face is made up of four units. Do Steps 1–4 to form one face. Do Steps 5 and 6 to form a vertex or corner. Continue forming the faces and vertices similarly to complete the cube.

4. Octahedral Assembly: Crease 12 finished units as explained on page 2.

Assemble four units in a ring as shown following the number sequence. Take a fifth unit and do Steps 5 and 6 to form a pyramid. Continue adding three more units to form a ring of four pyramids. Complete model by forming a total of eight pyramids arranged in an octahedral symmetry.



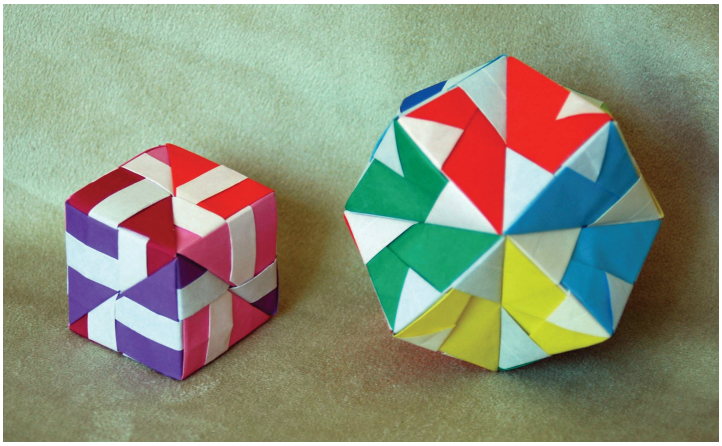
5. Icosahedral Assembly: Crease 30 finished units as explained on page 2.

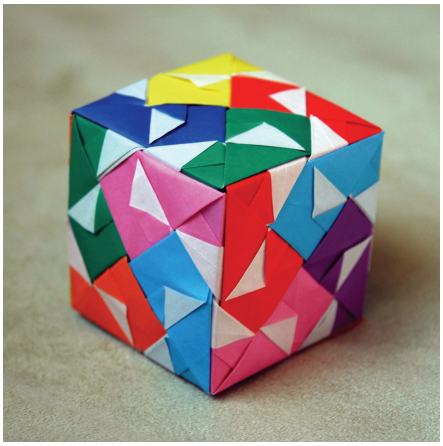


Assemble five units in a ring as shown following sequence numbers. Take a sixth unit and do Steps 6 and 7 to form a pyramid. Continue adding four more units to form a ring of five pyramids. Complete model by forming a total of 20 pyramids arranged in an icosahedral symmetry.

6. Spiked Pentakis Dodecahedral Assembly: This model will be discussed at the end of this chapter. Please see page 15.

7. Dodecahedral Assembly: This is similar to the icosahedral assembly. Fold 90 units and crease the finished units as explained in the table on page 2. Form a ring of five pyramids. Surround this with five rings of six pyramids such that each of the first five original pyramids is also a part of a ring of sixes. Continue in this manner to complete the ball. You can also think about this assembly as a dodecahedron where the faces are not flat but consist of a ring of five pyramids.





Striped Sonobe Cube, Swan Sonobe Octahedral Assembly, and Daisy Sonobe Large Cube.

90-unit dodecahedral assembly of Snow-Capped Sonobe 1.