Butterfly Ball

by Kenneth Kawamura, diagrams by Lar deSouza

The Butterfly Ball is a deceptive action model. Assembled from twelve units made from waterbomb bases, it forms a complex and pleasing geometric shape. However, throw it in the air and give it a light smack to see it explode into a cloud of butterflies. That never fails to draw appreciative comments from onlookers.

Step One: Fold a waterbomb base.
Three creases and you’ve completed the basic butterfly unit!
Fold a total of twelve units.

Tip: Use a stiffer paper. Regular kami is fine but a stronger paper will bear up better under repeated demonstrations, and something with a little tooth will grip better making assembly easier.

Step Two: Assemble the units!

Yes, easier said than done. For the purposes of these diagrams the outside of the units are coloured and the interiors are white or shaded with greys.

The model fits together very loosely, since there are no locking tabs. However, with a little perseverance a model can be assembled in just a few minutes and is quite stable once fully together.

The model is assembled in three “layers” using four units each. The first four units are probably the easiest step. Arrange them in a circle with their corners overlapping in an over/under pattern. This forms the bottom face of the unit.
Here is the first tier assembled. Beginners may find it useful to make themselves a small low sided box first and then assemble the units inside it. This not only helps hold the model together, but allows a folder to easily turn the model around without the pieces coming apart.

The next four units slot into the model in a vertical position. The over/under placement becomes a little more interesting at this point since there are two points to take into consideration. However, once you get started it all becomes pretty obvious.

Here is the model with the second layer of units in place. Remember that the model is still quite loose.
The final four units are the trickiest. The units are now horizontal and there are three points to weave. Just remember to take it calmly and if a point pops out, gently tuck it back where it belongs. The final unit will immediately improve the stability of the model.

First unit:
the near left corner goes over flap A,
the near right corner goes under flap B.

The next unit attaches at 3 points:
(to the right of the last unit)
Left half goes over flap A
Right half goes under flap B
Far left half (C) goes under the
far right (D) corner of the previous unit.

Success!! A completed Butterfly Ball!

Now, take it into a room with some space to spare, toss it lightly into the air and give it a sharp hit while it’s above your head. The model will easily burst apart and you will find yourself being showered with butterflies!

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Kenneth Kawamura thanks Joseph R. Power for sharing the inspiration that led to the Butterfly Ball.