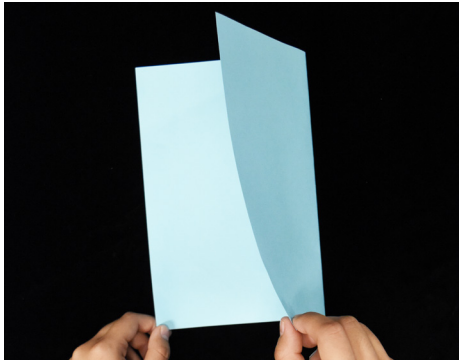


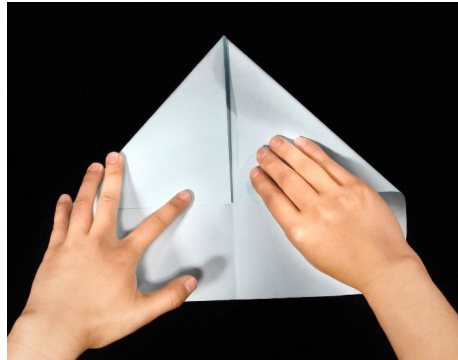


Moving Flexagon

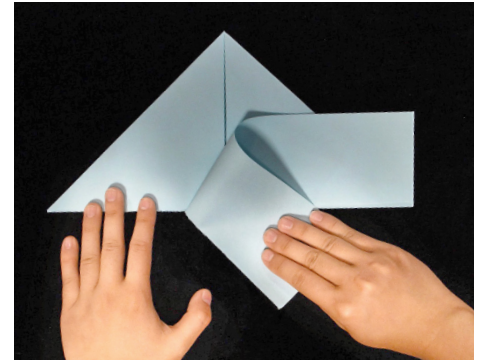
Making a Fidget Toy



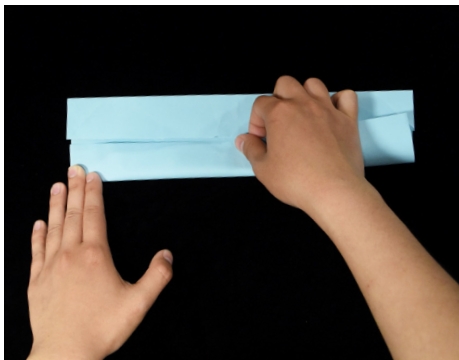
1. Fold a piece of 8.5 x 11" paper in half on the 11" side, and then unfold.



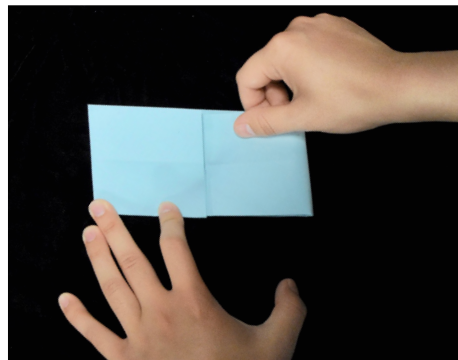
2. Fold corner flaps in to center crease.



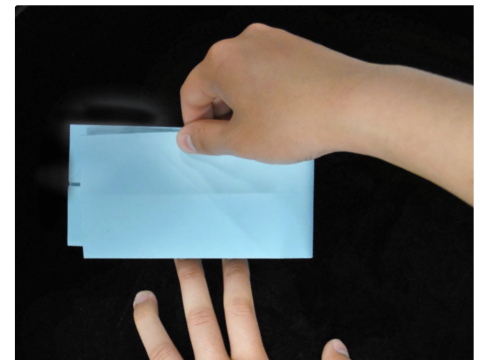
3. Fold bottom edge up, cut it off, discard it, and unfold triangle.



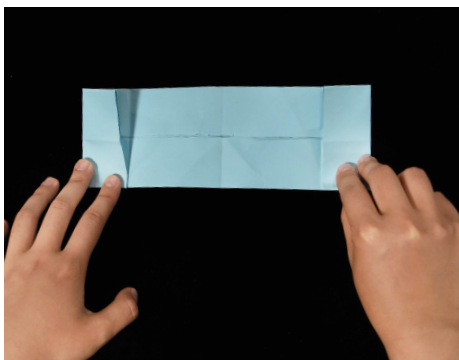
4. Hold paper horizontal. Fold in half horizontally, unfold. Fold top and bottom edges to middle crease.



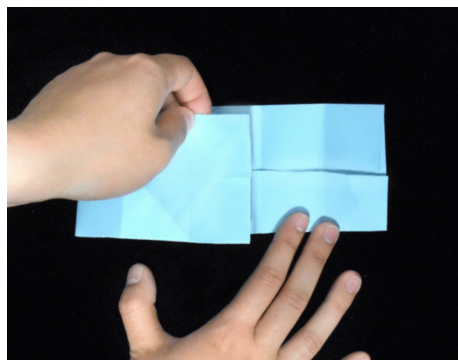
5. Fold left and right edges to center crease. Unfold. Now we will make a 2 x 8 grid of squares.



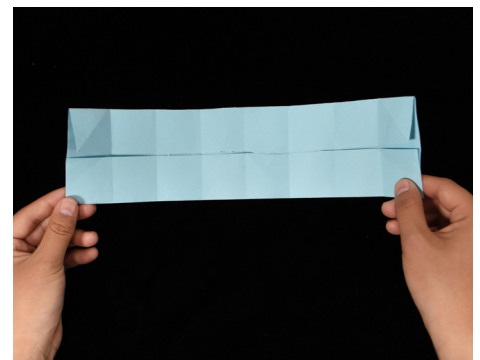
6. Fold right edge to nearest crease, unfold, fold again to farthest crease. Unfold.



7. Fold the left edge to the nearest crease.



8. Fold the left edge to the second farthest crease.



9. Unfold. In the next steps we will create a diamond grid.

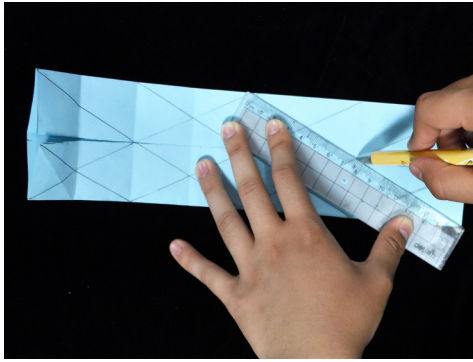


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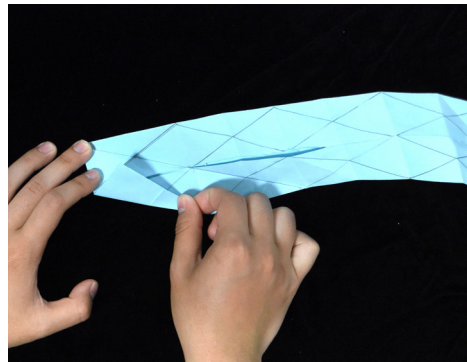


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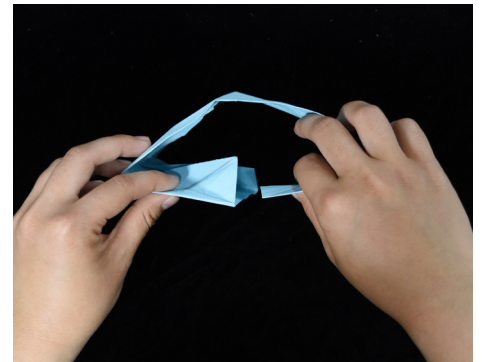




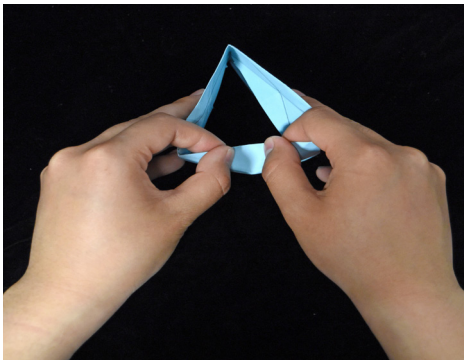
10. Hold vertical. Use a straight edge to draw lines from the corner of one square to a corner two squares down and one square over.



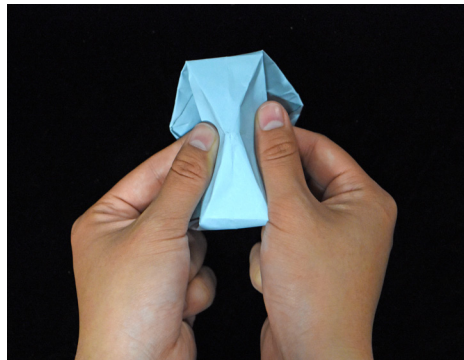
11. Repeat in opposite direction until diamond grid is formed. Fold on all lines that have been drawn. Unfold.



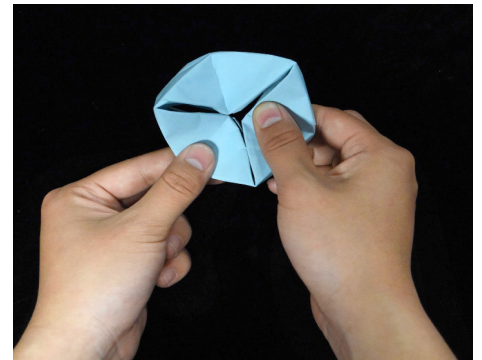
12. Tuck smaller side into larger side two square lengths, to form a hexagonal ring. Re-crease at points of hexagon.



13. Fold the three triangles on each side inward (six total triangles). Each side is now a hexagon.



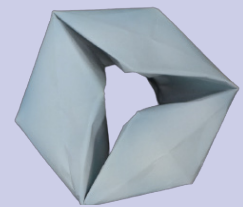
14. Fold the resulting three triangles on each side inward. Each side of the hexagon is now a triangle.



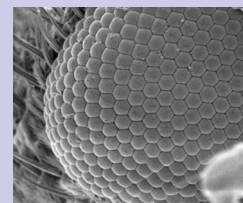
15. Now you can flip it! Go slowly at first to get the flipping started.

Fun Facts about Hexagons

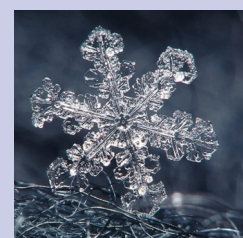
- Hexagons are six-sided geometrical figures (polygons.) In a regular hexagon, like your moving flexagon, all the sides are the same length.
- Regular hexagons are a very efficient way to fill a flat surface because they allow the greatest number of units to fit into the smallest space. Regular hexagons fit right up against each other with no wasted space and with a minimal distance around the whole group (perimeter).
- Because they are so efficient, hexagons abound in nature. Honeycombs, snowflakes, the compound eyes of some insects, and some minerals and chemicals all consist of hexagons, or their parts create hexagonal structures. For instance, the chemical benzene consists of six double-bonded carbon atoms that create a hexagon. When soap bubbles reach a certain number, they change from circular to hexagonal-faced structures to fit the most bubbles into the space.
- Humans frequently use hexagons in our own designs, particularly in tile patterns and architectural structures. Because hexagonal tubes can result in a light but strong gridwork, they are useful in creating the framework for super-tall buildings.



Moving flexagon



Dragonfly eye



Snowflake