LIGERBOTS ▪ FIRST® Robotics Team 2877
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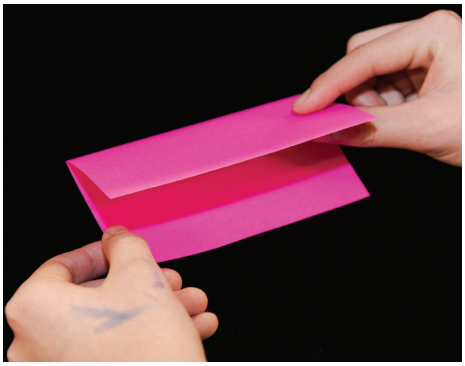
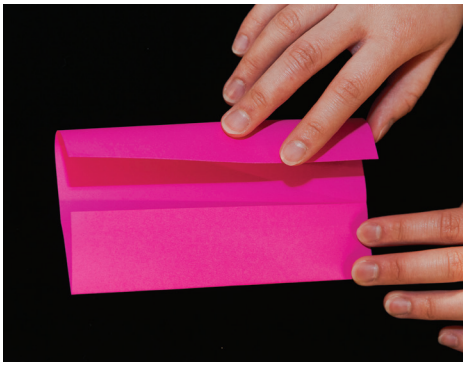
Origami Double Pyramid

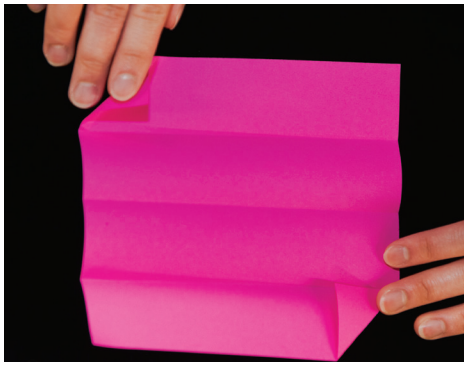
Making a Sonobe Unit



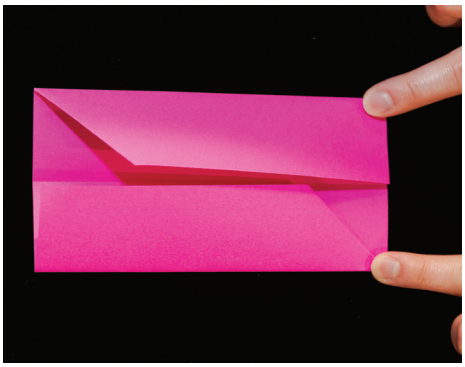
1. Fold paper in half and then unfold



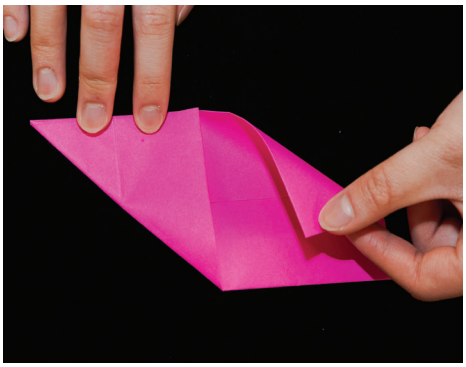
2. Fold edges to center crease and then unfold



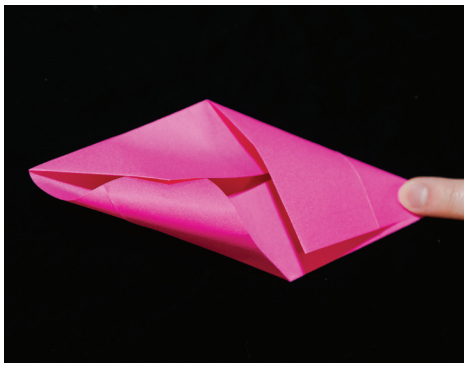
3. Fold corner flaps to newly made creases



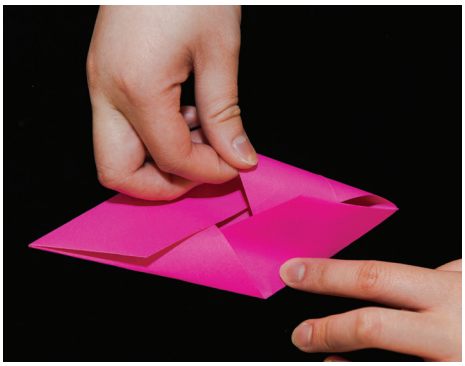
4. Refold edges to middle line



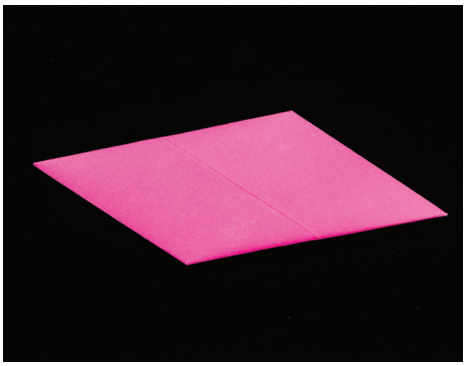
5. Fold left side up to top and right side to bottom



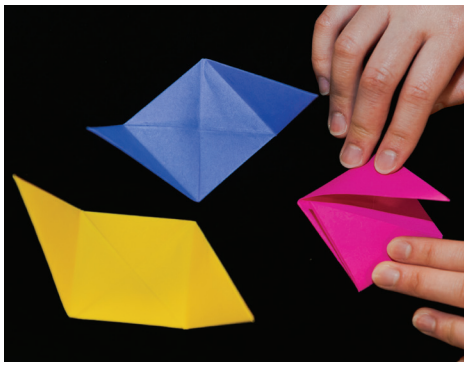
6. Tuck bottom left flap into upper flap



7. Tuck upper right flap into lower flap

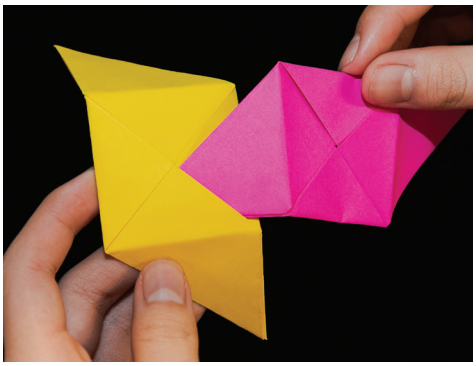


8. Flip almost completed sonobe unit

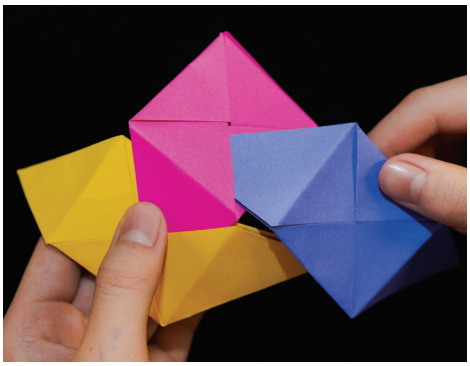


9. Fold flaps to center line, unfold. Repeat steps 1-9 three times

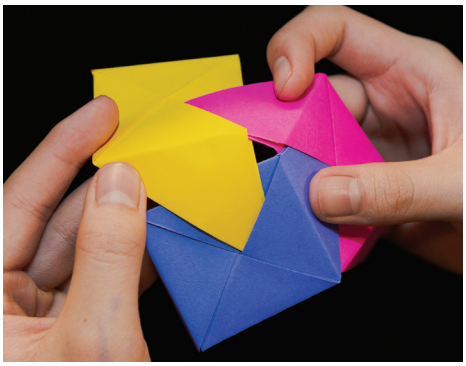
Combining Sonobe Units into a Double Pyramid



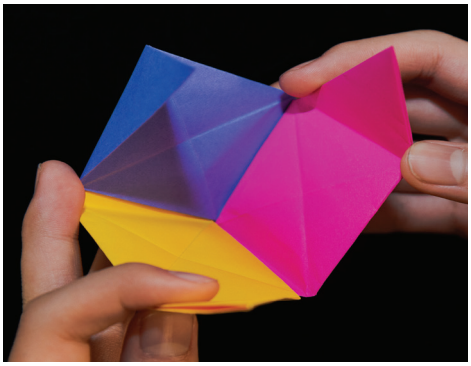
10. Tuck a triangular flap perpendicular into a center flap



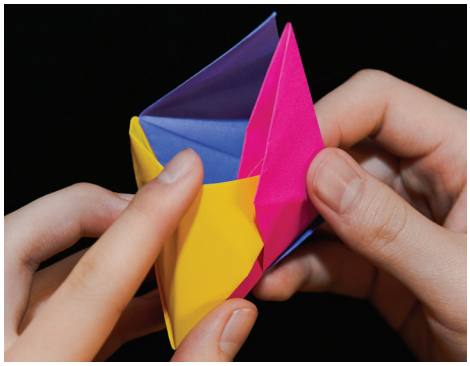
11. Tuck the third flap perpendicular to the second flap



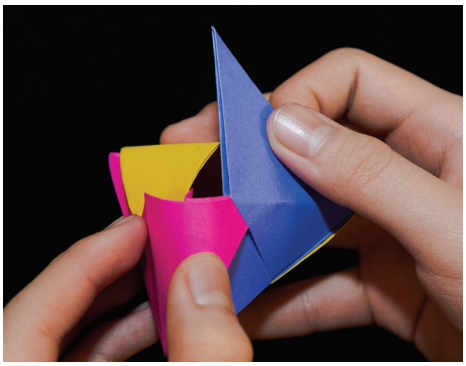
12. Tuck the first flap perpendicular to the third flap, making a pyramid



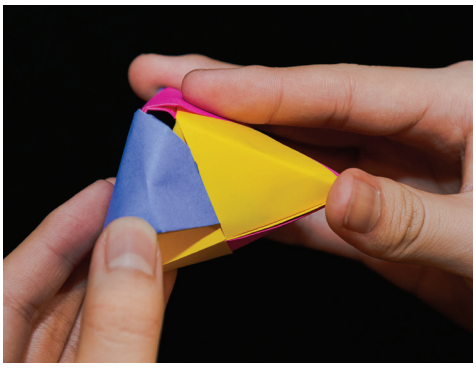
13. Flip



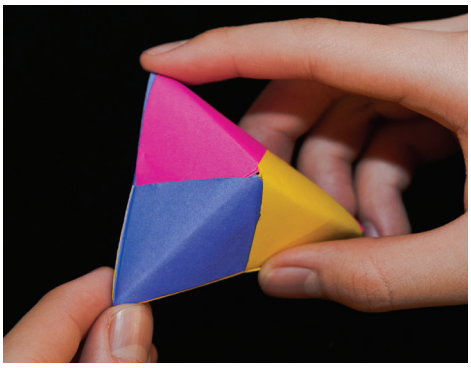
14. Tuck one of the top flaps into the flap to the right



15. Tuck that flap into the flap to its right

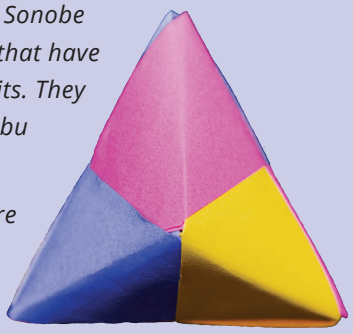


16. Tuck the third flap into the first flap (right)



17. Make sure everything fits snugly, and congratulations, you're done!

Fun Facts about Double Pyramids



- *The origami double pyramid is made of Sonobe units. Sonobe units are parallelograms that have two pockets into which to tuck other units. They are named for 1960s origamist Mitsunobu Sonobe.*
- *The double pyramid is the simplest figure Sonobe units can be combined to make. Using more units, origamists can make cubes, stellated octahedrons, stellated dodecahedrons, and even more complex shapes! See what you can make with Sonobe units!*
- *Sonobe units are a great example of modular design, an approach that subdivides a system into smaller parts that can be independently created and then used in different systems. It is useful in robotics, graphics, architecture, and many other STEM fields.*
- *Double pyramids are common in chemistry. Molecules like phosphorus pentaflouride and sulfur tetraflouride have this shape*