

TAKE&MAKE

GRADES K-7

**DIY ART PROJECTS
TO GO!**

Visit The Bascom YouTube Channel
for step by step videos of each project.
Look for the Take and Make playlist.

www.thebascom.org/take-make

LESSON OBJECTIVE

Learning about Paper Airplanes and Origami!

To fold paper, you first need...paper! Did you know that paper was invented in China around 105 A.D.? That's a looong time ago. And, it was a luxury item that only a few people had. Paper folding was used in ancient times for ceremonial or religious purposes, but by the 1600's people in Japan were using paper folding for recreation, for fun, and it became an art form. More paper became available to everyone, and written folding instructions like the ones below began to show up. Interestingly, paper airplanes were likely invented around this same time; hundreds of years before the Wright Brothers ever flew near Kitty Hawk, North Carolina! The word "Origami" comes from the Japanese words oru (to fold) and kami (paper).



Don't forget to post and share!

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STEP 1:

BOOKS

- Absolute Beginner's Origami by Nick Robinson
- Origami for Children: 35 easy-to-follow step-by-step projects by Mari Ono

VIDEOS

- Bascom Youtube Link:

https://www.youtube.com/playlist?list=PL07C_NSRwCo5S2_QRgTQzLXxJrNPWCikt

WEBSITES

- Origami: <https://mocomi.com/origami/>
- Paper Airplane Designs: <https://www.foldnfly.com/#/1-1-1-1-1-1-1-2>

CRAFT OPTION 1: PAPER AIRPLANES

Check out the Bascom Youtube for a How-To Video!

You will need:

- Plain white paper (or colored paper!)
- Markers (optional)

Time to create!

We are going to make two different types of paper airplanes and compare their flight characteristics.

FIRST AIRPLANE: THE HARRIER

Step 1: Fold in half lengthwise and then unfold.
This center crease is just a guide for future folds.



Step 2: Fold the top corners in so they meet at the center crease.



Step 3: Fold the entire top down so that it resembles an envelope. Make sure you leave a half inch or so at the bottom — you don't want the top point to evenly meet the bottom edge.



Step 4: Fold the top corners in so they meet at the middle. There should be a small triangle tail hanging out beneath these folds.



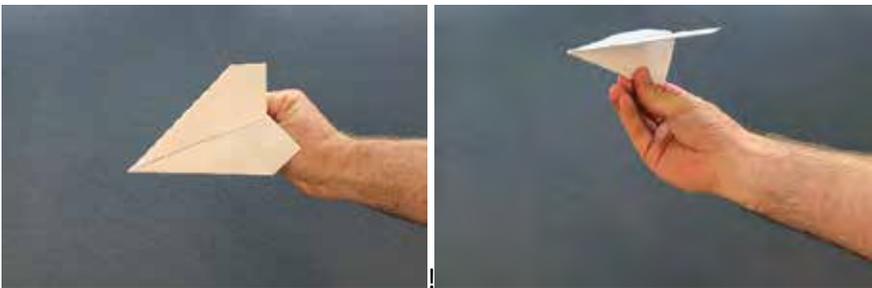
Step 5: Fold that small triangle up to hold those previous folds in place.



Step 6: Fold in half, but make you sure you fold it outwards on itself, not inwards. You want the previous triangular fold to be visible on the bottom edge.



Step 7: Fold the wing down so its edge meets the bottom edge of the airplane. Repeat on the other side.



SECOND AIRPLANE: THE BULLDOG DART

Step 1: First you fold the paper in half lengthwise, and then unfold. This initial crease is simply a guideline for the next folds.



Step 2: Fold the top two corners down so they meet the center crease. This is the classic way to start a paper airplane, and probably what you first learned as a kid.



Step 3: Flip the plane over, and fold the corners in again to the center crease. You want the diagonal line coming off the top of the plane (on the left side) to be lined up with the middle (like on the right side).



Step 5: Step 5: Fold the entire plane in half, in on itself. This creates the snub nose, which gives the Bulldog Dart its name.



Step 4: Fold the top point down so that the tip meets the bottom of where the previous folds come together.



Step 4: Fold the wings down so that you're making a straight line across from the top of the snub nose. Repeat on the other side.



FOLLOW-UP QUESTIONS:

- What are the differences between each airplane's design? Similarities?
- Which airplane flew the farthest?
- Did you notice any interesting flight characteristics between the airplanes, and what were they?
- Was one airplane faster than the other? Why?

CRAFT OPTION 2: ORIGAMI FROG

Check out the Bascom Youtube for a How-To Video!

You will need:

- Colorful paper (note: traditional Origami uses square paper)
- Pen, pencil, or marker (optional)

Time to Create!

Step 1: Fold the rectangle in half, crease firmly, and unfold it.



Step 2: Bring the top right corner down to the left and unfold it right away.



Step 3: Bring the top left corner down to the right and unfold it.



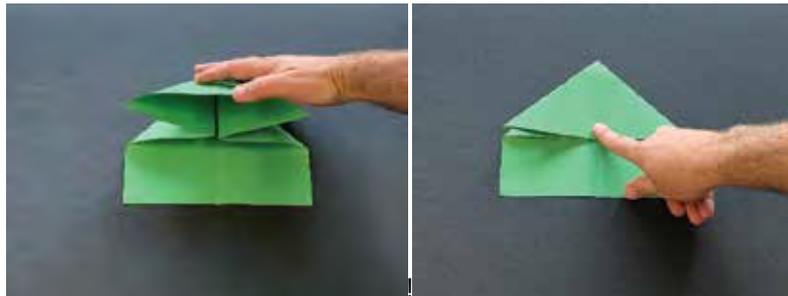
Step 4: Flip the paper over.



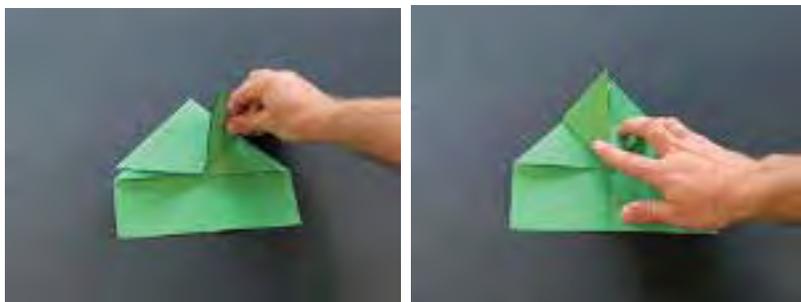
Step 5: Bring the top of the rectangle down where the diagonal folds meet, unfold it, and turn the paper over once again.



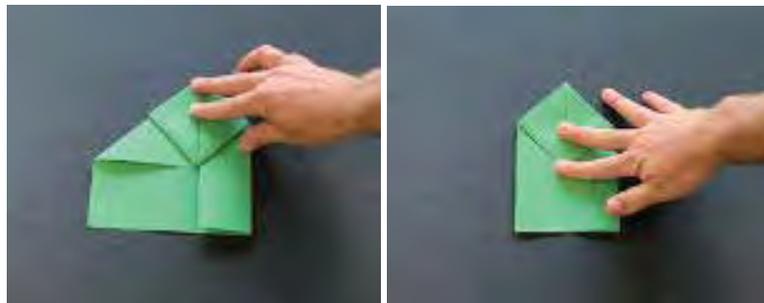
Step 6: Make a squash fold, as shown below. Bring the sides to the middle, so they meet each other. Flatten the top of your rectangle to make a triangle.



Step 7: Fold the two corners of the triangle up to the center.



Step 8: Fold the right side of the paper towards the center and repeat with the left side.



Step 9:

Go back to the triangles we made at step 7 and fold them from the top out.

Step 10: Fold the bottom of the paper up to the top corner of the triangle.



Step 11: Fold the paper down to the bottom edge.



Step 12: Turn your frog over and make it jump!



FOLLOW-UP QUESTIONS:

- What do Origami and making paper airplanes have in common?
- What part of the world did Origami come from?
- Why did people begin practicing Origami?



The Bascom Artist Highlight

Artists are still using paper in new and interesting ways. Bascom exhibiting artist, Cathy Adelman, makes handmade books and journals using a variety of paper making techniques. She stitches the pages together using a technique called "binding", and even decorates some of the covers of her books with a process called "marbling". Marbling creates an effect on the surface of the paper that resembles marbled stone.

Cathy Adelman