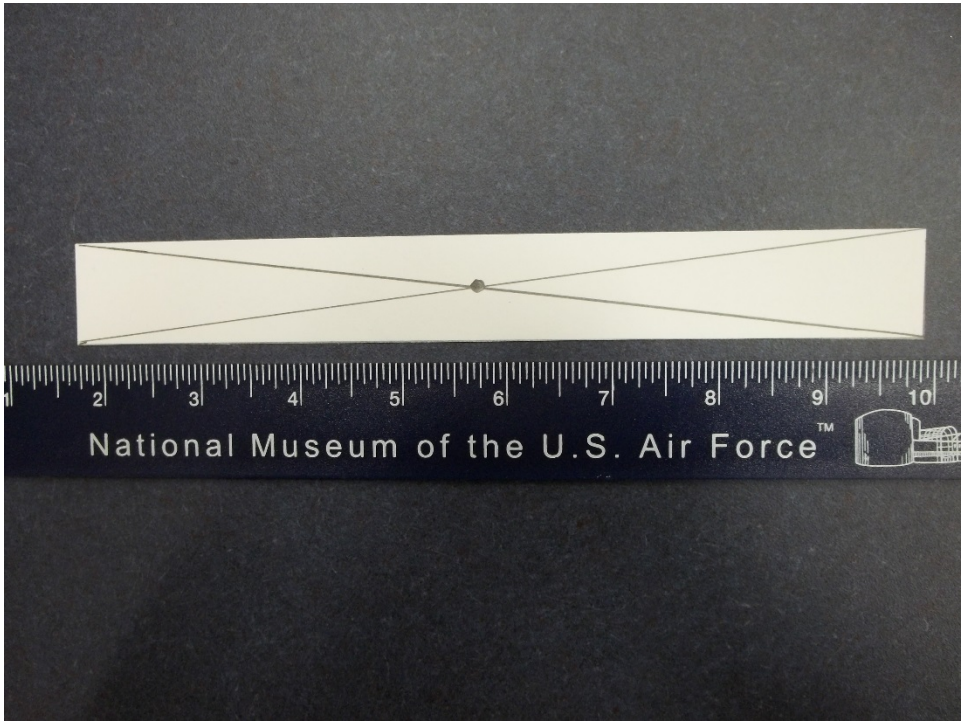
Aerospace Activities

BUILD A SIMPLE PROPELLER

Build a Simple Propeller



Step 1

Cut a piece of cardboard or heavy card stock (1 inch x 8 1/4 inches). This will be the propeller blade. Draw a line from the opposite corners to make an “x”. This will be the center point. Mark it with a dot.

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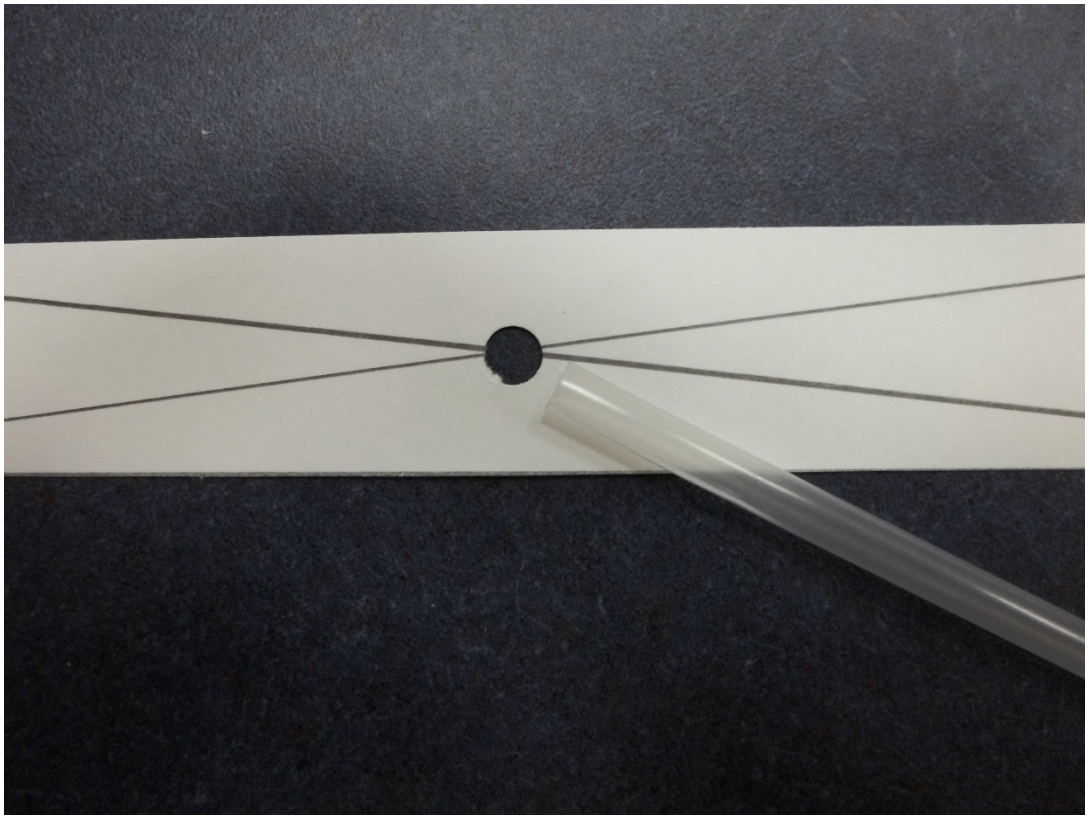

Step 2

At the dot, use a hole punch and make a hole that is slightly bigger than the diameter of the straw.

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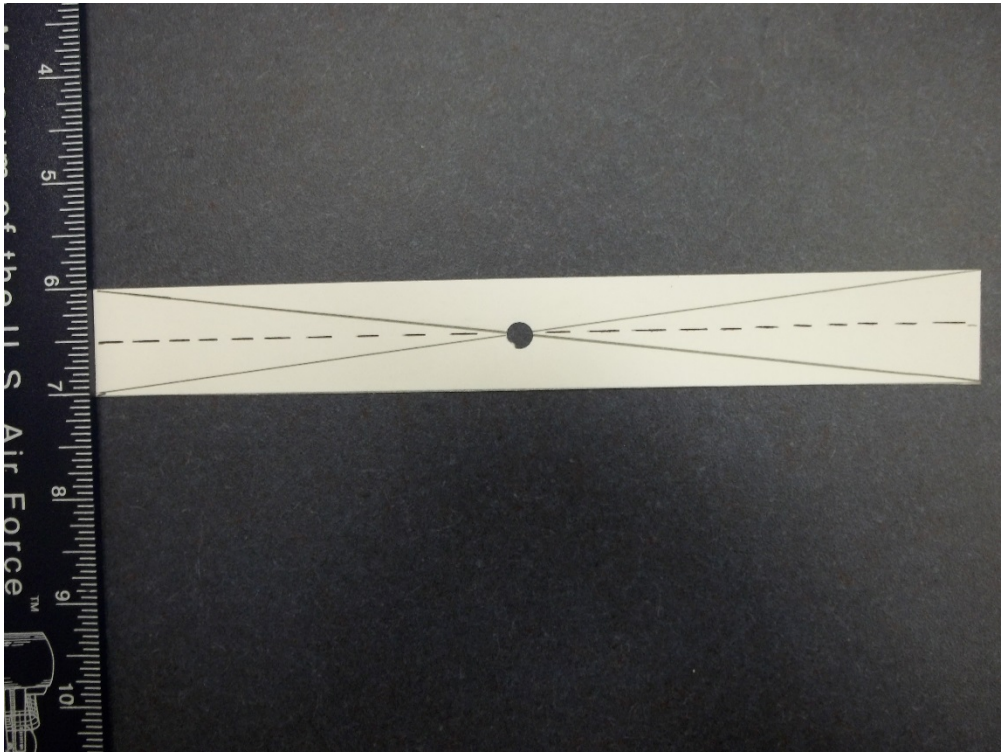

Step 3

Place the propeller blade long ways and measure 1/2 inch up from the bottom and mark a dotted line along the length. (This should be the center line of the rectangle).

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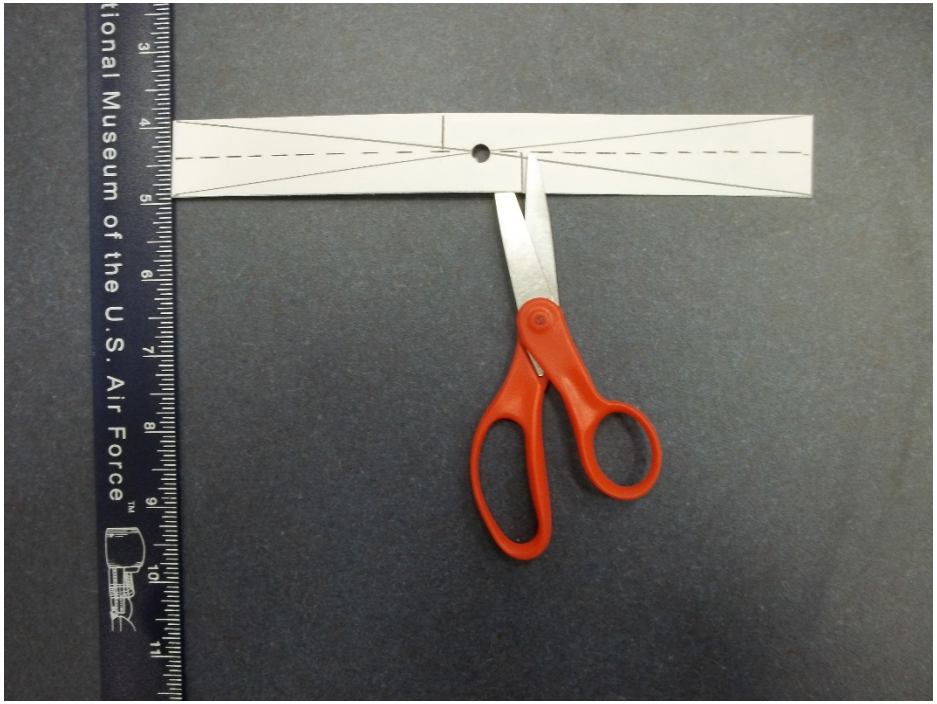

Step 4

Measure 1/2 inch from either side of the hole. One the left side, mark from the top down to the dotted center line. On the right side, mark from the bottom up to the dotted center line. Now make a cut up to the center line at these two marks as shown.

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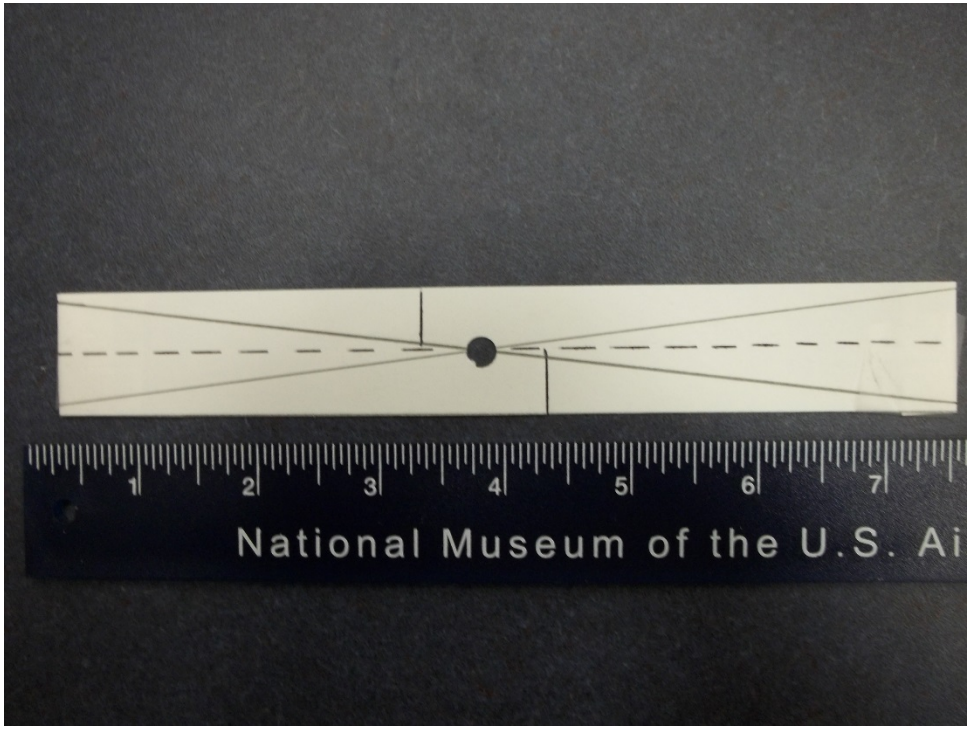

Step 5

Measure 1/2 inch from each tip of the blade and fold the tips under. Tape these folds down. This will add extra weight to the blade tips and increase the momentum as the blade spins.

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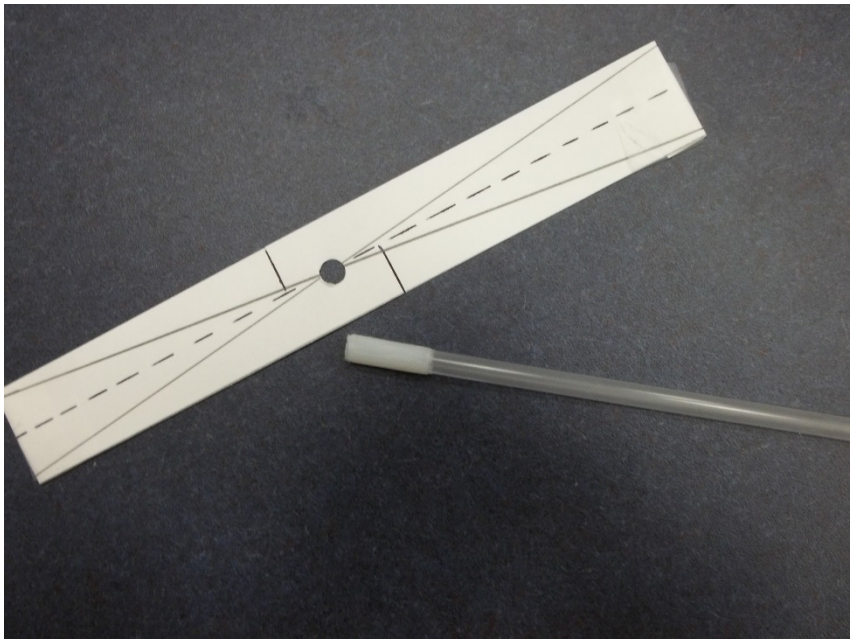
Step 6
From the small cuts outward, gently bend the blades down slightly along the fold line. Do not bend down too far. This should be a gently curve. Make sure both ends are bent down the same amount.



Step 7
To attach the straw, wrap tape around one end, so the wrapped end fits tightly when inserted into the hole of the propeller blade. If the propeller blade wobbles, tape the straw to the blade to hold it in place.

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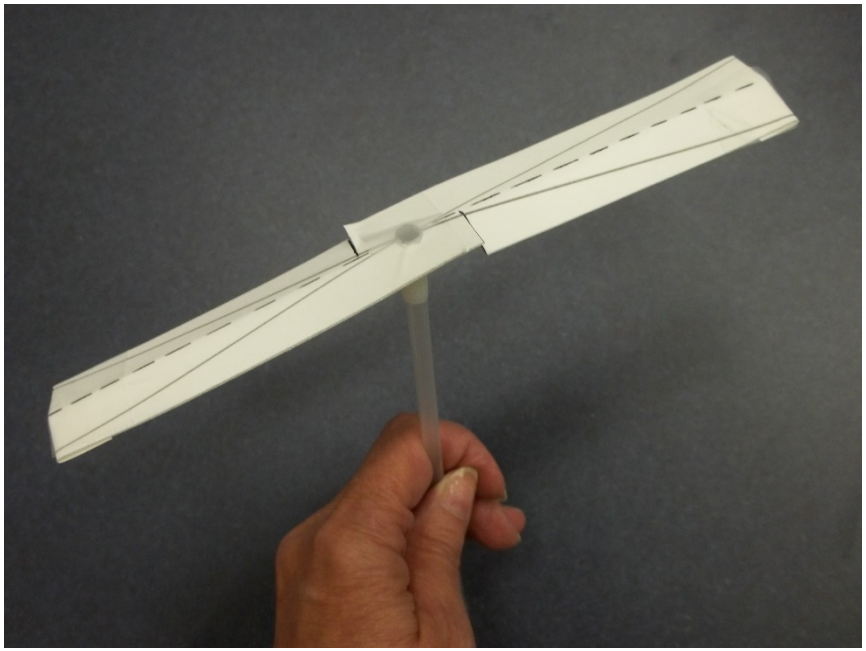

Step 8

Ready to Fly! Wearing eye protection, hold the straw between your palms. (Blade on top.) Roll your palms together so the propeller blade rotates rapidly counterclockwise. Now let go! The propeller will spin out of your hand and go up!

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Flying Tips!

If the blade spins but won't climb, try bending the edges down more. If it climbs rapidly but stops spinning almost immediately, try reducing the amount of bend at the blade edge. Experiment to find the settings that work best for you. You may need to add a paper clip to the bottom of the straw for stability. Sometimes "pilots" release it too soon. Also, keep your thumbs out of the way while releasing it. Keep practicing!

More Resources

Additional Teacher Resources
are available online at
www.nationalmuseum.af.mil/education/teacher/index.asp