

Capture the Wind

Activity 2—Twirling Helicopter for Little Ones

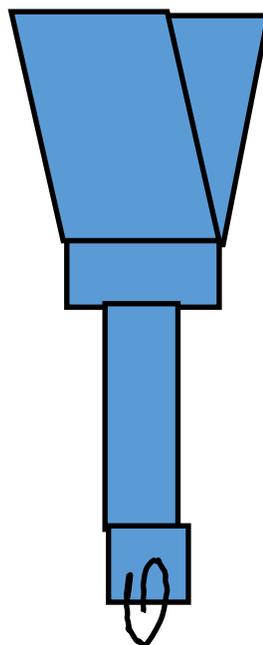
Materials needed: Print out of the paper helicopter on the next page, pencil, scissors, paper clips, crayons or markers

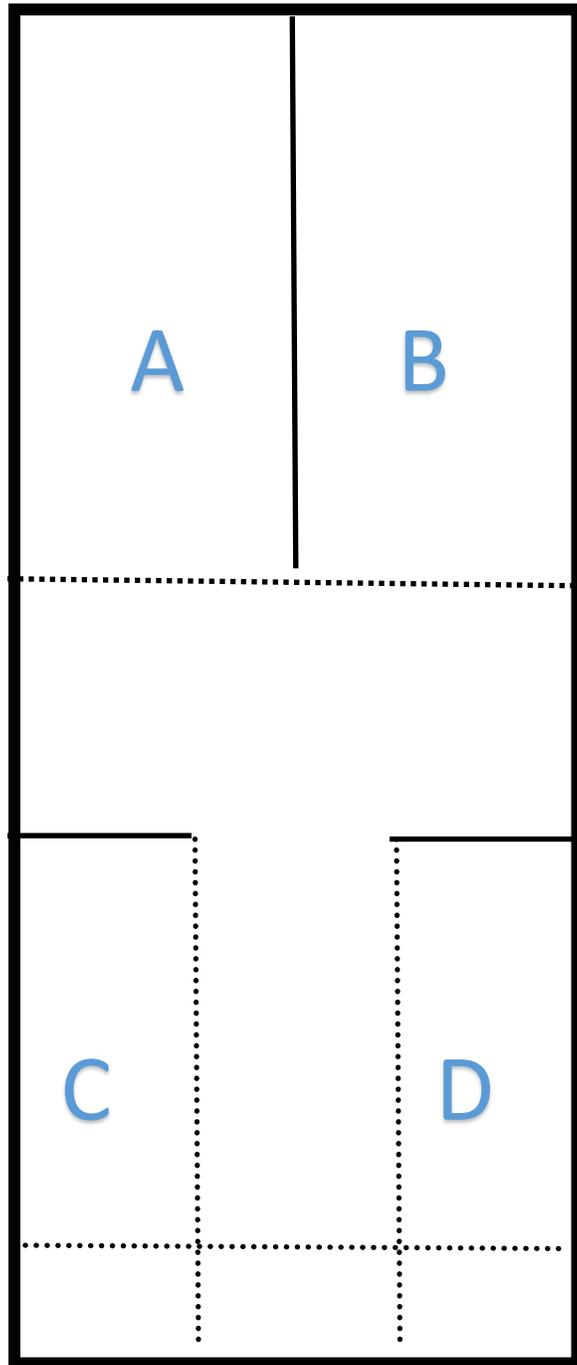
What to do:

Use the provided pattern, color it if you'd like and then cut along the solid lines.

Fold on the dotted lines. Fold A and B in opposite directions.

Fold C and D over top of each other, then fold up the bottom line and add a paper clip to hold it together at the bottom. You are ready to fly!

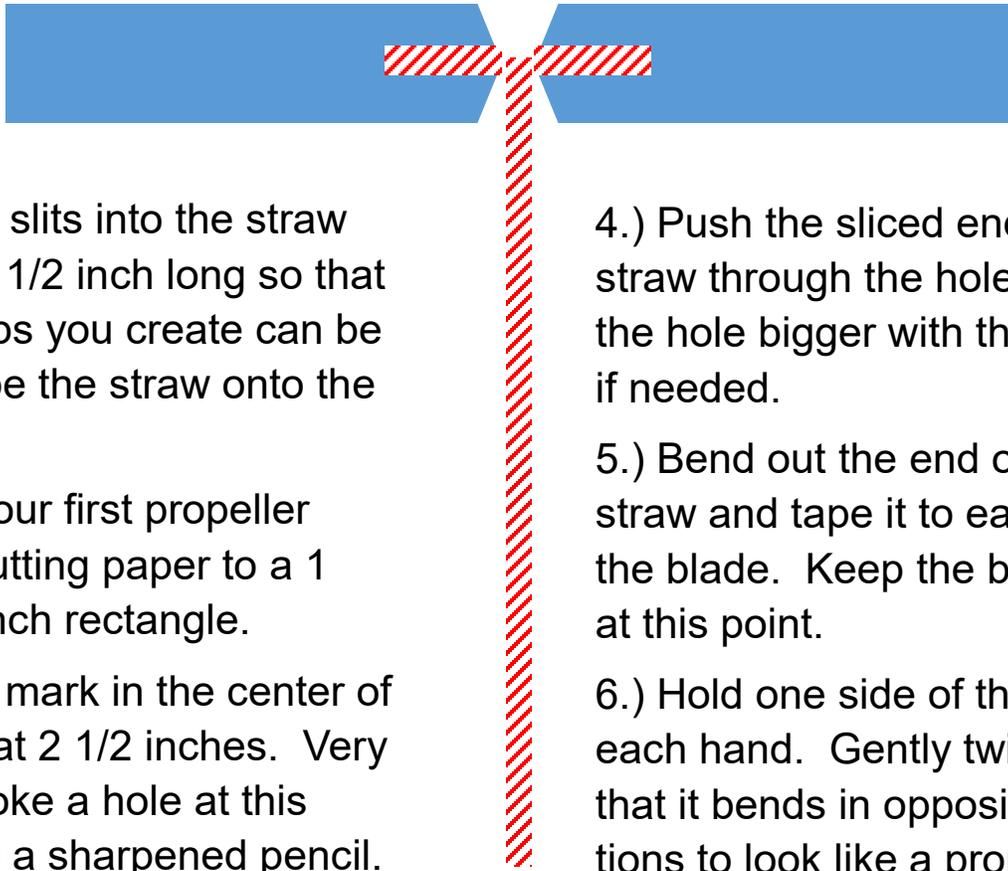




Capture the Wind

Activity 2—Twirling Helicopter for Bigger Kids

Materials needed: Scissors, transparent tape, pencil, straw (not bendy), colored paper or card stock and a ruler.



1.) Cut two slits into the straw end, about 1/2 inch long so that the side tabs you create can be used to tape the straw onto the propeller.

2.) Make your first propeller blade by cutting paper to a 1 inch by 5 inch rectangle.

3.) Make a mark in the center of the blade, at 2 1/2 inches. Very carefully poke a hole at this mark using a sharpened pencil.

4.) Push the sliced end of the straw through the hole. Make the hole bigger with the pencil, if needed.

5.) Bend out the end of the straw and tape it to each side of the blade. Keep the blade flat at this point.

6.) Hold one side of the blade in each hand. Gently twist it so that it bends in opposite directions to look like a propeller.

You have created a helicopter!

To fly it, hold it between your two palms. Push one palm away from your body, and release. It may take a couple of tries to get it, but soon it will be flying high!

Try making the blade wider, narrower, longer and shorter. How does it affect the flight?

Upgrade it. Can you add a pull string to make your helicopter fly? What if you used a stick instead of a straw?

STEM Connections

How did this work?

A helicopter's blades push air downward. At the same time, this creates air pressure below the blade that pushes it up. This force is called 'lift' which makes the helicopter rise in the air. Pilots use both their hands and feet to control all the many parts of a helicopter. While an airplane needs a long runway, a helicopter needs just a small space in order to lift. Do you know why?

What force pulls the helicopter back down?

By changing the dimensions on either of the above helicopters, you will change the amounts of air pressure and lift. What works best for you?

What happens if you add more paperclip weight to your helicopter?

Try adding a target. Are you able to get close?

Other Twirling Helicopter Sources

Maker Lab Outdoors by Jack Schalloner

How do Helicopters Work by Jennifer Boothroyd (Hoopla)

The Flying Machine Book by Bobby Mercer (ebook)