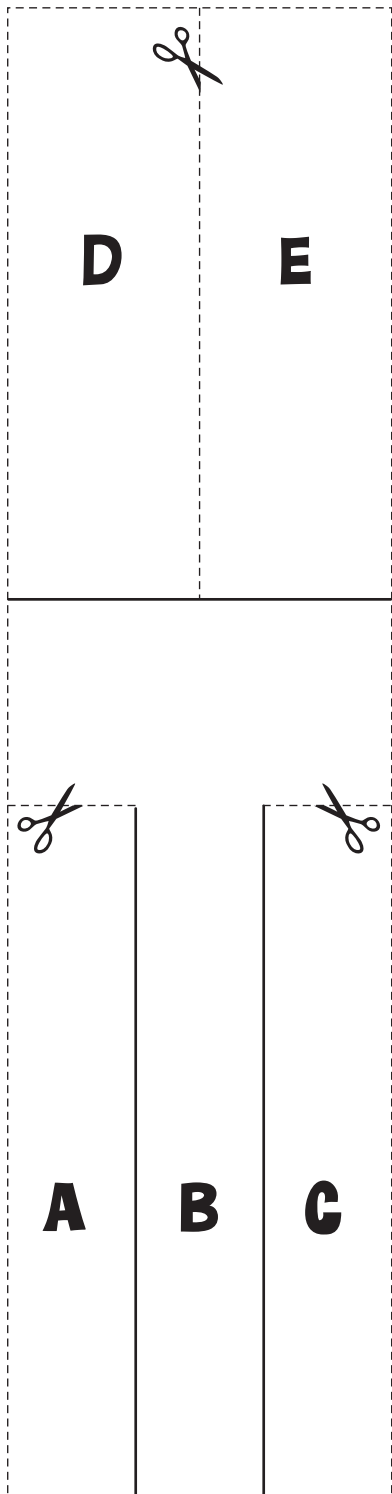


# Hang Time

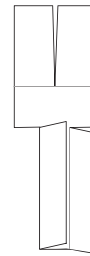


Time to drop everything. Really! Build some copters and race them. The winner hits the ground **LAST**. Look out below!

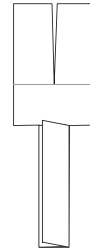


## What to Do

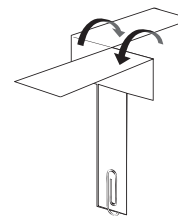
- 1 get what You need.**
  - A few sheets of paper
  - Scissors
  - Paper clips (1 large and 1 small)
- 2 make Your copter.** Cut out the copter printed on this page. Cut along the dotted lines. Assemble it as shown.
- 3 Launch Your copter.** Hold your copter as high as you can. Let go and watch as it falls. Does it spin to the ground?
- 4 change Your copter.** Build a second copter of your own design. This time, change a feature, such as the copter's size or shape of the blades. Try using more or fewer paper clips. Then launch both the new and original copter designs and compare how they fall. What kind of difference did your change make?



Fold Tab A over Tab B.



Fold Tab C over Tab B.



Fold blades D and E in opposite directions. Slip on a paper clip.

### chew on This

When you drop your copter, its blades hit the air. The air pushes back on the blades, giving each one a little push forward. Notice how the blades are not exactly across from each other. This means that one blade is nudging one side of the copter around while the other blade is nudging the other side around. These two pushes work together to spin the copter around its center point. The spinning blades hit a lot of air on the way down, and all this air pushes back on the blades. The more air you can get to hit your blades (i.e., the more push-back you can create), the slower your copter will fall.

# Dig Deeper

- \* Experiment with the size of your copter. How big or small can you make it and still have it spin as it falls to the ground?
- \* Does your copter always spin in the same direction? Mark one blade with a bold color. Then watch as your copter falls to the ground. Now, figure out how to make it spin in the opposite direction.
- \* Attach a thread to Tab B and pull the copter along behind you like a kite.
- \* Like contraptions that spin as they fly? Get the Hoop Glider challenge from the ZOOM Web site at [pbskids.org/zoom/activities](http://pbskids.org/zoom/activities).



Watch FETCH! on PBS KIDS GO! (check local listings) and visit the FETCH! Web site at [pbskidsgo.org/fetch](http://pbskidsgo.org/fetch).

Whew! That copter ride nearly took my appetite away! I'm almost too dizzy to eat these egg rolls. Almost. Mmm, egg rolls...



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Fold

# Fetch!

# Hang Time

Why did I think I'd be good at snowboarding? This hill is too steep! How am I supposed to get to the lodge now!?! WALK? Oh, there's got to be a better way. I know! Build me a helicopter whirligig that will deliver me to the lodge. And I should get there just in time for that fresh batch of egg rolls they're making. Mmm, egg rolls...

# GOOO FETCH!

