

Build a Better Bunny Copter

In the CYBERCHASE episode *The Fairy Borg Father*, Delete invents a Bunny Copter. This activity asks students: How can you improve Delete's invention so it twirls faster?

GRADE LEVEL

3 to 5

Connect to Engineering

This activity supports refining and optimizing a part of the inventing process practiced by engineers where they experiment with ways to improve the overall performance of an invention. To do this, they make changes to the invention and then test their changes to see whether they have improved its overall performance. In this activity, kids work with Delete's Bunny Copter invention and experiment with changes as they try to make it twirl faster.

MATERIALS

2-3 "Bunny Copter" strips

2-3 paper clips

Crayons

Scissors (optional)

Depending on grade level and available classroom time, the activity leader can either distribute pre-cut "Bunny Copter" strips, or give each student an 8.5" x 11" sheet of paper and ruler and then help the students measure and cut their own strips; see "further explorations" below.

DESIGN AND CONSTRUCTION

- Color the bunny's face.**
- Make Delete's invention.** Starting at the top of a Bunny Copter strip, count down two boxes. Then cut (or tear) along the dotted line to the solid line at the bottom of the 2nd box to make "ears." Fold one ear forward on the solid line, and the other back as shown.
- Make a place for Delete to ride.** Fold up the bottom of your copter on the solid line. Attach Delete (a paper clip) as shown.
- Test Delete's invention.** Hold up the copter as high as you can and let it drop. How fast does it twirl before it hits the floor? Can you think of ways to change it so it twirls faster?



- Build a better Bunny Copter.** Using new strips, make your changes and test new copters until your invention is as good as it can be!

DISCUSSION

How Am I Inventing?

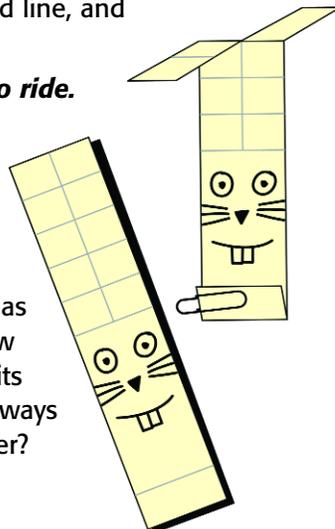
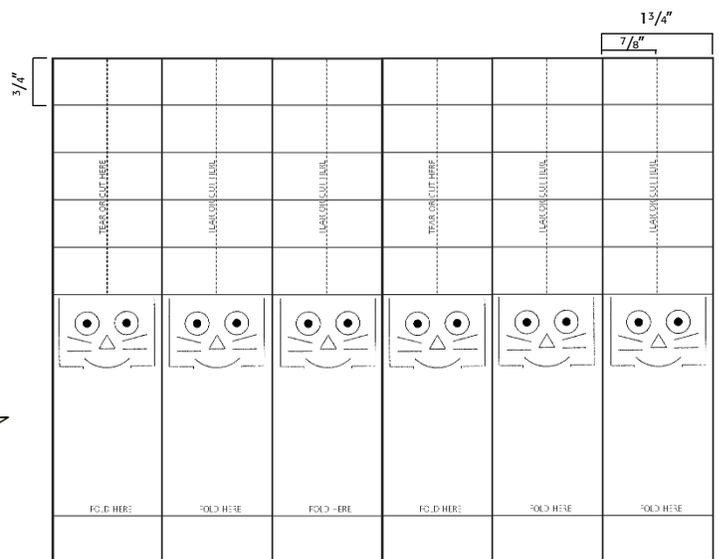
Engineers and inventors are always looking for ways to make something work better. So they test and make changes to an invention to improve it. When you make changes to

Delete's Bunny Copter to make it twirl faster, you're doing the same thing. Engineers call this process *refining and optimizing*. You can call it fun!

FURTHER EXPLORATION

Older students may be able to measure and cut their own Bunny Copter strips. Using the length of an 8.5 x 11" sheet of paper, make six 1 3/4 inch wide strips. Using the width, make 5 solid lines spaced every 3/4-inches from the top. This gives you 5 boxes on each strip that measure 1 3/4 by 3/4 inches. Then make dotted lines down through the center of these boxes.

Get inventive with CYBERCHASE on PBS KIDS GO! Check local listings or visit www.pbskidsgo.org/cyberchase.



Major funding for CYBERCHASE is provided by the National Science Foundation, Ernst & Young, Northrop Grumman Corporation, Intel Corporation, Intel Foundation, PBS and the Corporation for Public Broadcasting. Additional funding is provided by The Volckhausen Family. Cyberchase © 2006 Educational Broadcasting Corporation is produced by Thirteen/WNET New York and Nelvana Limited

