



## WHY CAN'T I FLY?

by

Ken Brown

Unfortunately the ostrich doesn't know that he belongs to a group of flightless birds. He is willing to keep trying, and with unseen help from his friends, he succeeds!

So will you and your students on your first attempts to build this Loop Airplane. Using a straw and two strips of paper you will make a paper airplane that really flies. Then you will "fly" your plane and measure, record, and graph its flight distance if you desire.

**MATERIALS:** plastic straw, attached paper pattern with two strips of different lengths, scissors, tape.

- ACTIVITY:**
- #1. From the pattern, cut two strips of different lengths. These strips are the wings.
  - #2. On the longer or rear wing, print your name or the name of your plane.
  - #3. Tape the two strips making two circles; then tape them on to the ends of your straw as shown in the picture above.
  - #4. Test-fly your plane five times; each time measure and record the distance flown.
  - #5. After your first "test flight", you may shorten the fuselage (the complete central structure of an airplane) by moving the loops/wings closer. First, predict what you think will happen. You can discuss the terms thrust, lift, and drag with your students.

**TEACHER NOTES:** I have found that McDonald's™ straws work well, and the stores always have been most generous in giving them to me. Older students may want to add weight using paper clips. **CAUTION** them that they must be careful as they fly their planes. The straw could hurt another student if the straw hit him/her in the eye. These

students can measure and record their data, combining math and science. This activity works well in a gym or outside on a sunny day.

The art work at the top is from the original Christa McAuliffe Collection and was drawn by Beverly Noble in 1991.

**SOURCE:** Instruction pamphlet, 1987 & 1982, AIMS Education Foundation.

**STANDARDS:**

**BSL:** 1.1, 1.3, 1.6, 1.8, 1.12, 3.2, 3.3, 11.2, 11.4, 12.1, 12.2, 12.5

**NCTM:** 1a, 1c, 2a, 3b, 6a, 9b

**SCS:** A1, B1, B2, E2, H2, H4, H5

Brown, Ken. Why Can't I Fly? Doubleday, c1990. ISBN#0-385-41208-8.

