

# Parachutes: things with drag

## Ecole Bilingue MiniMakers Winter 2015

### **Materials**

- Plastic bags, coffee filters
- String, yarn, pipecleaners
- Egg cups (cut up egg cartons), yogurt cups, Dixie cups
- Pompons, small animal figurines, wood pieces
- Glue, scissors, hole punch
- Masking tape
- Decorative fluff (eyeballs, glitter, pens, etc.)

### **How to from (Recycled materials)** <https://www.youtube.com/watch?v=LARWVYputz8>

1. Cut out one 10" circular piece of plastic bag and this will become your parachute. Smooth and flatten your parachute. Then fold it in half, creating a crease.
2. Unfold your parachute. Close to the edge on the crease, place a piece of masking tape an inch long on each end. The tape will help keep your parachute from tearing in later steps.
3. Using a hole-puncher punch a hole on both ends, through the masking tape, and as close to the crease as possible.
4. Fold the piece your parachute in half the other direction, creating another crease.
5. Unfold your parachute. Close to the edge on the crease, place a piece of masking tape an inch long on each end.
6. Using a hole-puncher punch a hole through the masking tape, on both ends, and as close to the crease as possible. You should now have four holes
7. Find in the middle of the circle where the creases intersect, and place a piece of masking tape an inch long. This will help with aerodynamics.
8. Roll a side of your parachute towards the middle. Using the hole-puncher, make the final hole in the center of the circle, being careful not to cut through the rolled-up part of the parachute.
9. Measure two pieces of dental floss 20 inches long. Measure floss from the 10" mark to the beginning of a ruler, mark your place and then measure the floss from the mark again from 10" to the beginning of the ruler.
10. Pick two holes on the rim next to each other. Tie one piece of floss to a hole. Make sure not to tie the other end. Pick another hole next to it and tie a piece of dental floss. Again do not tie the other end of the piece of floss.
11. Thread both pieces of dental floss through a 1" length of cardboard such as a used paper towel roll. Check to make sure the strings are not twisted.

12. Tie the end of one piece of dental floss to the open hole next to it. NOT DIAGONAL. Tie the other piece of dental floss to the last open hole on the rim.

13. Test your parachute! Try dropping it from different heights.

**Sources**

- Science Kids (NZ) <http://www.sciencekids.co.nz/experiments/freefall.html>
- Royal Institute (UK) <http://www.richannel.org/homemade-parachutes>
- Parks College Parachute Research Group <http://www.pcprg.com/sptp.htm>
- Science Wonder How to:

<http://science.wonderhowto.com/how-to/build-parachutes-with-household-materials-321538/>