

DIY PARACHUTE

SHAPES EXPERIMENT

Explore gravity

What you'll need:

- Garbage bags or a large sheet of plastic
- Scissors
- A hole puncher (or sharp pencil)
- A roll of string
- Paperclips
- Popsicle sticks
- Tape



Square parachute set up:

1. Cut a square out of the plastic (approx. 30 cm x 30 cm)
2. Make 4 holes in your parachute (one in each corner)
3. Cut 4 pieces of string of equal length (30 cm each)
4. Pass a single piece of string through each hole in the parachute
5. Tie the string a simple knot (Tip: add tape for extra security)
6. Tie paper clips to the end of each string using a simple knot
7. Slide a popsicle stick through all the paperclips (that's four paperclips around one popsicle stick)
8. Lay a piece of tape across the entire stick to secure the paperclips



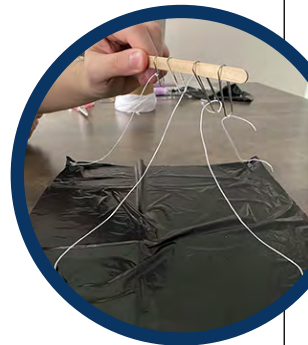
Triangle parachute setup:

1. Cut an equilateral triangle out of the remaining plastic (30 cm x 30 cm x 30 cm)
2. Follow the rest of the steps for the square parachute, except there are three strings instead of four.



Experiment!

Time to test your designs by dropping your parachute from a high elevation inside of your home. Get different people to drop the same parachute. Which shape do you think will fall faster? Why?



What's happening?

As the force of gravity pulls down, with a parachute there is a counteracting force called air resistance pushing it upwards. When an object falls without a parachute, the gravitational force pulling on the object is much stronger, so the object falls quickly.

Parachutes increase the air resistance of a falling object to the point where the upward force of air resistance is almost equal to the force of gravity. This reduces an object's falling speed with the goal of slowing the object enough that it will not be damaged when it impacts the ground.