# Parachute

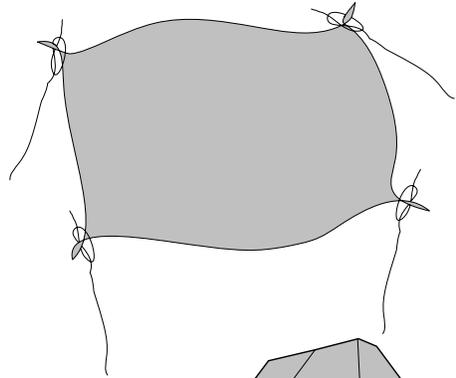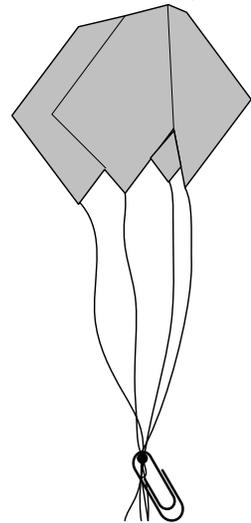## What you need:

- Facial tissue
- Heavy thread (denim thread works well) or light kitchen string
- Paper clips

## What to do:

**1.** Cut four pieces of thread about 30 cm (12 inches) long.  Tie each thread tightly to a corner of the tissue.

**2.** Tie the free ends of all four threads together. Hook a paper clip over the knot.

**3.** Hold the tissue by the centre as high up as you can, and let it go.  What happens?  Experiment with your parachute:

- How long does it take a parachuted paper clip to hit the ground?  Compare that to one with no parachute.

- Does your parachute work best with more paper clips or with fewer? How many paper clips can it carry?

- Cut a small vent hole in the centre of the parachute. Does that make it work better or worse?

## How does it work?

When you drop your parachuted paper clip, it falls to the ground because gravity pulls it down.  But as it drops, it moves through the air, and air resists the motion of an object through it.  The greater the surface area of an object, the more air resistance it meets.  The air pushes back against the parachute, slowing it down so the paper clip drifts gently to the ground.

Cutting a small vent hole in the centre of your parachute might make it more stable.  Air needs to move out of the way as the parachute falls, and with a solid parachute, the only place it can go is out under the edges.  But if the parachute isn't perfectly even, air might spill out from one side faster than the other sides.  That can make the parachute tilt over and collapse.  With a small vent hole, air can escape through the centre of the parachute, which helps stabilize it.