

More than 500 years ago, Leonardo Da Vinci sketched a design for a parachute that looks remarkably similar to modern day parachutes. In this project, you will make a miniature replica of Da Vinci's parachute.

### Materials:

- Four print outs of page 2
- Scissors
- Scotch tape
- Dental floss, fishing line, or thread.
- A small weight like a washer, bolt or figurine.

### Directions:

- 1) Cut along the dotted lines on page two to get a triangle, for each of the four pages.
- 2) Line up each of the triangles one at a time and tape them together (see figure 1).
- 3) Form the triangles into a pyramid shape by creasing the tape along each seam (see figure 2).
- 4) Cut four equal lengths of thread, and tape one piece to each corner of the pyramid. (see figure 3).
- 5) Fasten each piece of thread to your weight, being careful to keep the thread the same length.

Test your new parachute by tossing it from a high place.

What happens if you use a longer or shorter string, or a lighter or heavier weight?

What do you think cutting a small hole in the top of the parachute will do?

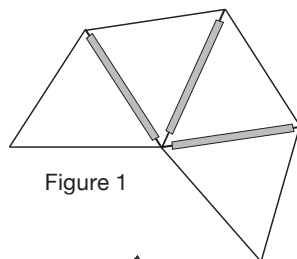


Figure 1

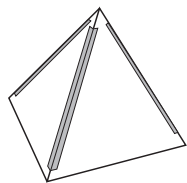


Figure 2

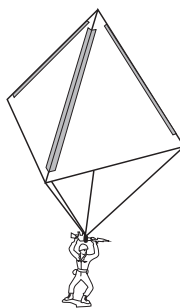


Figure 3

## The Early History of the Parachute

The earliest known drawing of a parachute dates to the 1470s during the Renaissance in Italy. The author of the design is unknown. A short time later, around 1485, Leonardo Da Vinci created a sketch of a pyramidal parachute.

Later, the Venetian inventor Fausto Veranzio altered the design to include a bulging sail-like piece of cloth instead of the canopy, which he found to be more effective in slowing down falls. He tested his design by jumping off a tower in Venice.

The modern parachute came to be in the late 18th century by Louis-Sébastien Lenormand in France. Later, one of Lenormand's fellow French aeronauts, François Blanchard, coined the term "parachute" from the prefix *para-*, which means "defense against" and the French word *chute*, which means "fall".

Later development of the parachute focused on it becoming more compact, using lighter folded silk instead of heavy linen with a wooden frame.

It is not known for sure if Leonardo ever tested his design, but in 2000 and again in 2008 the design was tested by skydivers, and it was found to be successful.

