

## Elementary Engineering Activity Bag 1

# Parachute - Student Activity Guide

You are about to jump out of a plane 10,000 feet in the air, and you need a parachute to jump safely. What type of material would you want your parachute made out of? What size parachute would you want? Engineers test materials and designs to be sure of a safe landing. Today, you will build a parachute to safely land a metal washer on the ground.

### Materials From the Bag

- String
- Tape
- 1 Piece of Aluminum Foil
- 1 Napkin

- Plastic Bag
- Washer
- Marble



### Part 1: Washer Landing

Your challenge is to safely land a washer on the ground. The slower it falls, the better.

1. Draw your parachute.
2. Build your parachute. You will need scissors. Ask an adult to borrow scissors.
3. To test your parachute you may:
  - a. Throw your parachute and washer as high as you can. Time how long it takes to fall to the ground.
  - b. With help from an adult, let your parachute go from a specified height. For example, the top of a set of stairs. Time how long it takes to fall to the ground.
4. It is ok if your parachute designs don't fall slowly at first. Keep changing your designs, use different materials, and try again.
5. Draw your final design. *What is different from your first design? What materials make a good parachute?*

### Part 2: Marble Landing

Your challenge is to safely land a washer and a marble on the ground. The slower it falls, the better. To begin, set the marble on top of the washer, and tape the marble and washer together.

1. Draw your parachute.
2. Build and test your parachute. Time how long it takes to fall to the ground.
3. It is ok if your parachute designs don't fall slowly at first. Keep changing your design, use different materials, and try again.
4. Draw your final design. *What is different from your first design? How did the marble change your design?*

**Place tape, string, and marble into the bag for future activities.**