

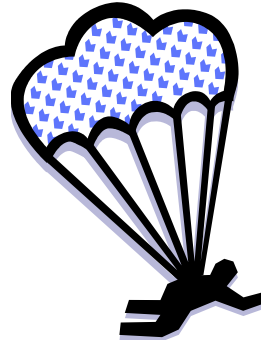
Grocery Bag Parachutes

Activity Summary

Participants create a parachute toy to play with at home or at the WOW! Children's Museum at the Big Blower in the Wind Room.

Class Time: 30 minutes to make the parachutes, test them outside, and make necessary modifications.

Grade Level: 1st to 5th.



Learning Objectives

- Wind can move objects
- Air resistance slows moving objects

Materials Needed

- Plastic grocery bag
- Ballast (weight) - you can use small toy figures, a metal washer, a heavy bead, or a paper cup with clay pressed into the bottom.
- String

Activity

Tie your ballast to the handles of the grocery bag. If you are using a toy figure, start tying a knot in the handle of the grocery bag, but before you tighten it, slide it onto the arm of the figure. Then tighten the knot and repeat with the other arm and other handle. Or, use string to tie the weight to both handles.

Outdoor Launch:

Press all of the air out of the grocery bag and roll it up from the bottom to the handles. Find a clear open space. Hold the bag and ballast in your hand with your palm up and toss it high. If the parachute fails to open troubleshoot possible reasons and make design or launch changes. One common design problem is that the handles are tied to each other, preventing the bag from catching air as it falls.



Wind Room Launch:

Hold your ballast over the Big Blower while the parachute fills up with air. Let go and see how high your parachute flies. Look for the giant ruler painted on the wall and note how many feet your parachute flies.

Variation:

Use nylon fabric, tissue paper, or other materials to make a parachute.

Explanation/Significance

Air exerts pressure on objects. When objects are moving or wind is blowing over them, we call that pressure *air resistance* or *drag*. Air resistance can be helpful. Parachutes create a lot of air resistance so that falling objects slow down and land gently. Air resistance can also be unhelpful. The more drag on a car, the more gasoline it burns to keep moving.