

Parachute Party!



**Make your own
parachute toys
using materials
you already
have at home!**

Best for ages 5+.
Children using plastic bags need supervision.

Have you ever dreamed you could fly?

Whether a daydream or a sleeping dream, you're not alone. People have been wishing for that superpower since the beginning of time!

We all learn this pretty early:

What goes up must come down.

As much as you might want to float in the air indefinitely, that won't happen while you're on Earth. Gravity always pulls you back down.

Wait -
really?
Uh oh!



But what if you could slow down the falling part?

I think
that will
be helpful.



**Let's defy
gravity
(at least
temporarily)!**

Here are the supplies you'll need for this project:

One plastic grocery bag



Tape (any kind is fine)



One plastic garbage bag



Scissors



Small, unbreakable items to "ride" the parachute: (mini-figures, small plastic animals) or even household items like spoons, paperclips, or pencils.



String, ribbon, or yarn



A stopwatch or device to record time (optional)



Next, get your supplies ready:

1

Using half of the grocery bag, cut the bag to make a flat plastic square. It doesn't have to be a perfect square.



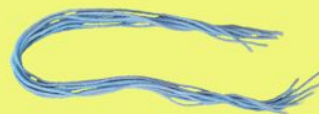
2

Use the garbage bag to cut as big of a square as possible.



3

Cut your string into 8 pieces. How long? If you have an old school paper laying around, make each string twice the length of the long side of the paper (between 16"-24").



I think these should be called "panda-chutes."



You'll be making two parachutes - one small, one big.

1

Lay one plastic square on the table or floor where you're working.



2

Tie a knot in each corner of the plastic.



3

Tie one piece of ribbon, yarn or string above each knot that you made, leaving one long end to hang down.



4

This is what your parachute will look like after all the knots and strings are tied. It looks a little like a jellyfish, doesn't it?!



5

Bring the loose ends of the string together and tie them near the bottom.



6

Use the tape to attach one of the figures to the big knot at the end of the strings.



You did it!
You made a
parachute!

Now repeat these steps with the other piece of plastic!

Now it's time to test the parachutes!

1

Find a buddy to do the parachute drop with you.

Bring your extra items that you haven't taped to parachutes, your timing device, and the parachutes.

2

First, drop some items without a parachute and see how long it takes them to hit the ground. Do heavier objects hit the floor first? The timing can be tricky - try it a few times! Use the stopwatch to record how long it takes.

Find a safe place to go where you can drop your parachutes.

3

Now try dropping one of the parachutes. You can drop a "free" item (no parachute) at the same time to compare.

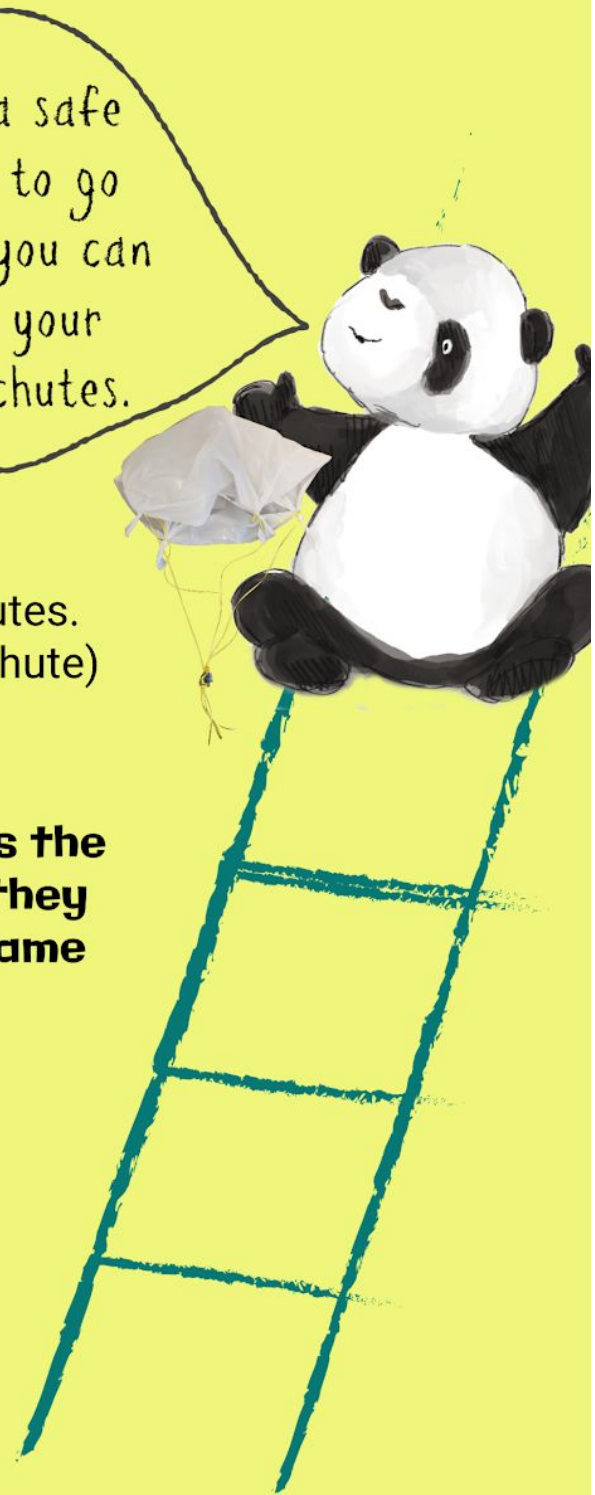
4

Time to compare the big versus the small parachute! Do you think they will slow down gravity at the same speed?

Which one works better?

5

Now you can play around and experiment. Add more items to the parachutes - does that make them land faster, slower, or the same? Make an even bigger parachute! Try making a new parachute in a different shape.



Why do parachutes "slow" gravity?

1

Air may be invisible and look like it is just empty space, but air is actually made up of "stuff." It takes up space and it is matter.

2

When you walk or run, your body pushes the air out of the way.

3

At the same time, the air pushes back on your body. That's called "air resistance."

5

Of course, gravity is stronger and still pulls objects back to Earth.

6

Learn more about gravity on www.hoopladigital.com, and check out this famous experiment: <https://bit.ly/moon-experiment>

4

A parachute works because the parachute "lands" on the air. Some air is pushing down on it, but some air pushes up on it.

7

Some animals use air resistance plus special body parts to help them move and survive.

Check out these National Geographic videos to learn more!

<https://bit.ly/ng-flying-snake>

<https://bit.ly/ng-sugargliders>

What will fall faster - me, or a flower? May I borrow your parachute, please?

