

Design a Parachute!

Step One: Get inspired!

A parachute is used to slow down an object that is descending (or moving downward). Parachutes are used in lots of different ways. People use parachutes when they skydive. Engineers have even used parachutes to land a rover on Mars! Since parachutes can be used for a variety of different tasks, they can come in different shapes and sizes. To learn more, with an adult permission watch [Playtime with Parachutes: Physics for Kids](#)

Based on the video, what makes parachutes work?

Step Two: Choose your Materials

Thinking about the way parachutes work, what are some materials that you might use to help an object slow down as it is falling?

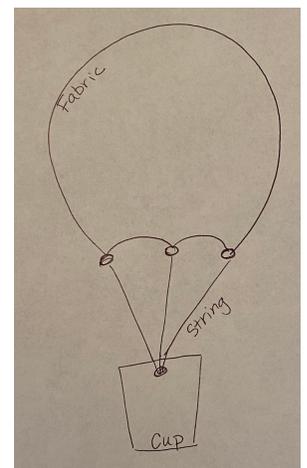
Materials like paper, fabric, or a plastic bag might be useful - but how could you shape them into something that looks like a parachute? Would you want to keep them as flat as possible or fold them into a different shape?

Once you've identified the material you will use to make your parachute, you'll need to think about how to attach the parachute to the falling object. For this, additional useful materials might include: string, tape, plastic cup, and/or rubber bands.

Step Three: Designing your Parachute

Engineers often begin with drawings to share and refine their ideas. Keep the materials you found in mind as you draw your designs. Here are some questions to think about as well:

1. What type(s) of object(s) could this parachute be used for?
2. How can you keep your parachute as light as possible while still being effective?
3. From where will you be dropping the parachute? How might the location you choose impact your design choices?



Step Four: Building your Parachute.

What can you use to test whether your parachute works? With an adult helper, select an object (e.g., a small plastic toy or ball) that you can use with your parachute. Remember not to use anything fragile! Once you've selected your object, start building your parachute.

BE PERSISTENT! Even if your parachute doesn't work right away, keep at it!

If you need help...

- Consider working with those around you!
- Think about additional or different materials you can use.
- Take a short break and give yourself time to refresh!

We know you are all amazing problem solvers and will use your creativity to succeed at this challenge! For inspiration watch [Succeed by Failing: Failure Points \(Crash Course Kids 42.1\)](#)

Reflection Questions:

1. How would you describe the way your parachute worked?
2. Based on the video you watched earlier, which two forces are acting on the object you used with your parachute as it was falling?
3. How could you slow down even further the speed at which your object fell with your parachute?

If you liked this challenge, click the links below to find out more!

(Read) [Explain That Stuff!](#)

(Read) [Mars Rover Parachute](#)

(Watch) [Crash Course Kids: Engineering Compilation](#)

(Activity) [Landing on Mars](#)

Step 5: Sharing your Parachute on Instagram or email.

We want to see your parachute! With permission from your parent, or guardian, share a picture of your parachute for our instagram page. By direct messaging or emailing an image of your challenge, you are giving us written consent to redistribute the image on our official instagram page and [webpage](#).

- Instagram: @sciencecircuswhittier
- Email: sciencecircuswhittier@gmail.com

