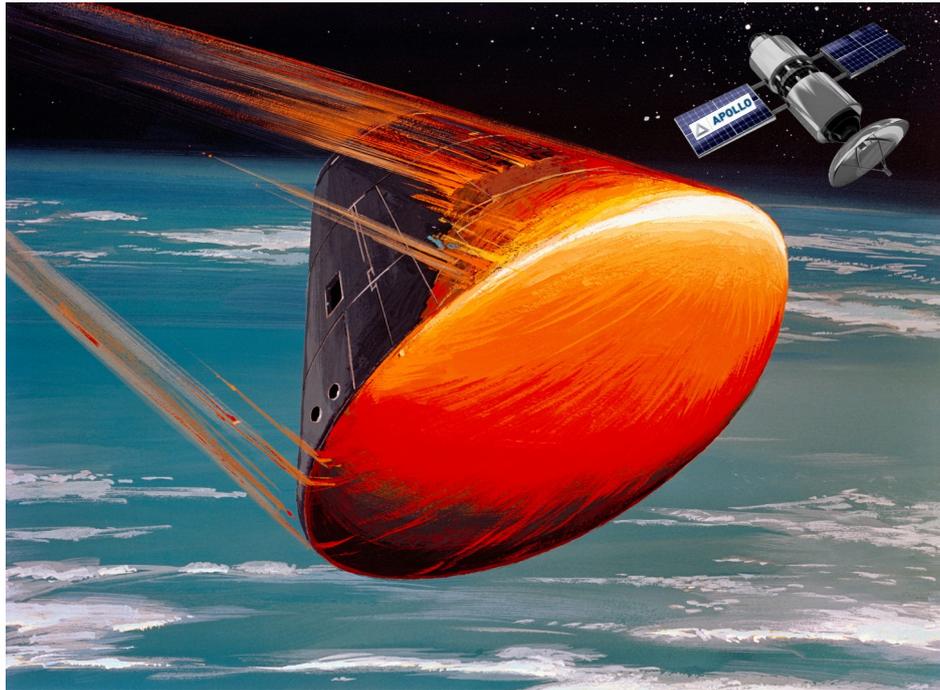


# APOLLO YOUNG ASTRONAUT PROGRAMME



Apollo are looking for the next generation of aspiring astronauts to help us on our space discovery missions. After successfully building your rocket, you landed on Mars and deployed your rover. You are now ready to return back to Earth to finally complete your epic space voyage. To finish the final part of your mission you must build a landing craft that will bring you, the astronaut, safely back to earth! Are you up to the challenge?

All you have to do is send us a video of your landing craft bringing an egg down to the ground! You can make it with anything you have in your house, make sure you put 'APOLLO' on the side so it gets entered into the competition!

Email your entries to: [entries@apollo-oe.com](mailto:entries@apollo-oe.com) with your video, name, age and any bloopers you may have.

We will review all submissions and give out certificates!



And lastly, **HAVE FUN!**

 **APOLLO**  
Passionate about engineering



# APOLLO



## YOUNG ASTRONAUT PROGRAMME

### ADULT INSTRUCTIONS SHEET

In order to successfully complete this challenge you will need to drop an egg (acting as the astronaut) from a height of about 2 meters and land it without causing the egg to crack.

Some items that may be useful when building your landing craft are as follows:

- Paper
- String
- Elastic bands
- Drinking straws
- Plastic bags
- Egg boxes

This is a simple concept for children of any ages to make a landing craft from any material found in the house. Please supervise children to ensure they are being safe and this is perfect opportunity for you to ask questions that allow them to start thinking about STEM concepts. Some questions you could ask include:

Q. How do NASA make sure astronauts land safely on Earth?

A. The most common methods that NASA use for landing astronauts back on Earth are either a space shuttle or a Soyuz capsule, picture of both vehicles can be seen on the next page. Both of these methods utilise a parachute in different ways to slow them down as they head towards earth. They also land on different surfaces, the space shuttle lands on a runway while the Soyuz capsule needs a soft surface to land on to lower the impact, such as sand in a desert.

Q. What forces are acting on the landing craft when it is coming back down to Earth?

A. The main force acting on the landing craft will be gravity acting downwards, and according to Isaac Newton's second law of motion, the heavier the landing craft is the greater this force will be. To minimise the impact of this force we want to create some upwards force, using a parachute is a good way to do this.

Q. Why is it important that it is fast and easy to get the astronauts out of the landing craft?

A. In the case of an accident occurring during landing it is much better to be able to get the astronauts out of the landing craft quickly to prevent injury. This was an issue during the Apollo 1 aircraft launch when a fire broke out, the craft was not able to be opened quickly enough and sadly caused all three astronauts inside the craft to die.

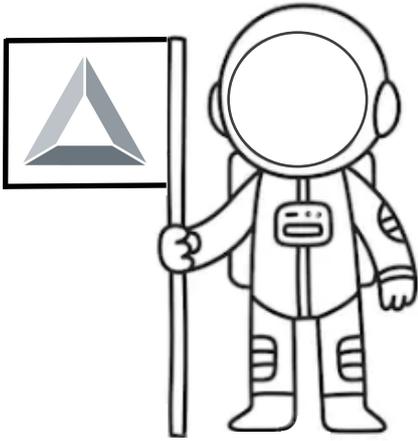
An additional challenge for our more experienced astronauts would be to ensure the egg (or astronaut!) can be quickly and safely extracted from the landing craft; in other words don't use hundreds of layers of tape!

Take videos and pictures of the landing craft and send them to us at [entries@apollo-oe.com](mailto:entries@apollo-oe.com) so they can be entered into the competition, we will review all entries and send out a variety of certificates so please ensure names and ages are included in the emails.

You participate in this competition at your own risk and accept that Apollo has no liability whatsoever. By participating in this competition and sending videos and photographs, you consent to these being used in promotional material for our website/social media accounts.

## PRINT OUTS

We have provided these images for you to print and cut-out with adult supervision to decorate your landing craft!



# APOLLO

Below is a picture of two methods that NASA use to land their astronauts back on Earth. A space shuttle (left) and a Soyuz capsule (right).

