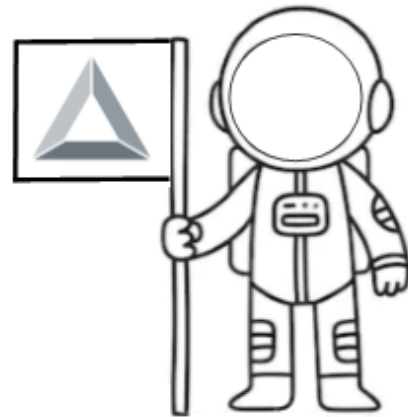
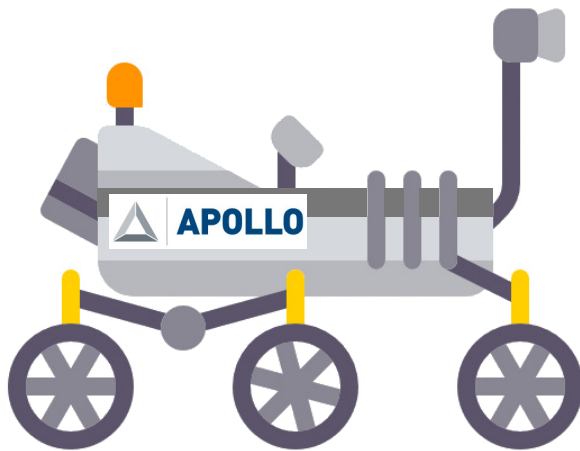


APOLLO YOUNG ASTRONAUT PROGRAMME



Apollo are looking for the next generation of aspiring astronauts to help us on our space discovery missions. After building your rocket and launching yourself into space you have landed on Mars. You are now ready to begin the next part of your mission and build a Mars rover! Are you up to the challenge?

All you have to do is send us a video of your homemade rover rolling over 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 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



YOUNG ASTRONAUT PROGRAMME ADULT INSTRUCTIONS SHEET

This is a simple concept for children of any ages to make a Mars rover 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. What parts does the Mars rover need to have?

A. Mars rovers are left on the planet without any astronauts around, so they need to have some different parts to allow them to work correctly on their own. The six main parts are antennas, cameras, wheels, microphones, a robotic arm and a battery.

Q. How does the Mars rover talk to the scientists and engineers on earth?

A. An antenna is used so the rover can get directions from people on earth and so it can send information back to earth, just like a remote control car or walkie-talkie.

The rover also uses cameras (23 in total!) and microphones so it can take pictures and videos of what it is seeing and hearing on Mars and send them back to Earth, it also needs cameras to make sure it doesn't bump into anything!

Q. How does the Mars rover move around?

A. The rover needs wheels as a way of moving around over rocky surfaces and up and down hills (to overcome the frictional force). Usually six wheels are used and each one has its own motor. This allows for a lot of power in the wheels and gives the rover lots of control over its steering, similar to how cars with four-wheel drives are better at driving off-road.

Finally, the rover needs a way of powering all of its parts. An electrical battery is used to do this and it is recharged using solar panels. Could something else be used to charge the battery, such as wind or tidal turbines? Would these work on Mars?

Q. What does the Mars rover do?

A. The Mars rover is used to explore the planets surface and search for signs of water, as this could mean life (aliens?) previously existed on Mars. The robotic arm is used to pick up samples of rocks on Mars, it can also be used to drill for more rocks.

Some additional challenges for our more experienced astronauts:

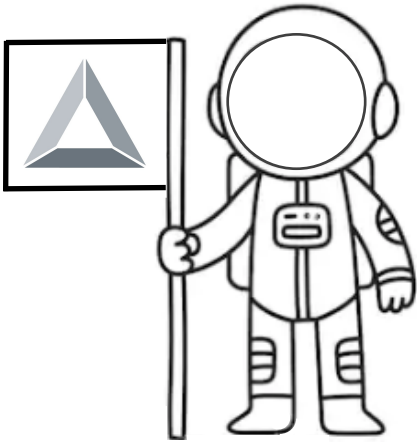
- Self-propulsion
- Move over off-road terrain (similar to Mars)
- An arm capable of picking up objects

Take videos pictures of the rover and send them to us at 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 Mars rover!



APOLLO

Print out your Mars Rover profile card below! What will your rover do on Mars? Include this in your mission statement.



NAME OF ROVER:

DATE OF ARRIVAL ON MARS:

MISSION STATEMENT:

MARS 2020