



Space Discovery Workshop

Could your learners be the future of space exploration? Let them test their knowledge and skills in this interactive session focused on the space industry.



Overview

Wonders of the Solar System – Journey into space and explore the neighbourhood of our Solar System, identifying key differences between the planets of our own cosmic back garden via interactive activities.

Make it to Mars – Demystify the complexities of rocket science, take a closer look at the infamous red planet to understand why scientists are so interested in going there, and plan your own trip to Mars!

Robot Rumble – Mission on Mars – Learn about the engineering feats of the Mars Rovers and take the area challenge by piloting your own rover!

Extension Activities (Enabling up to a full day of activities)

- Solar System – Design planet 9!
- Space Tourism – use creativity to design a space tourism poster for visiting Mars 100 years in the future!
- Stars in Space – Delve deep into the heart of stars, understanding how the sun shines and the role constellations have played over the years, with the chance to make your own constellation!
- Cosmic Quiz – Test your understanding of what you've learnt by taking on the interactive Cosmic Quiz using Qwizdom™ handsets!

Aim:

By the end of this activity students will:

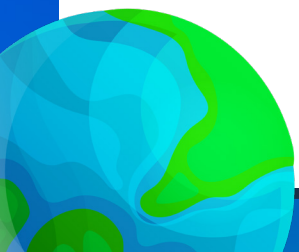
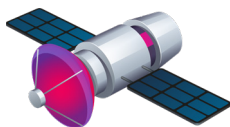
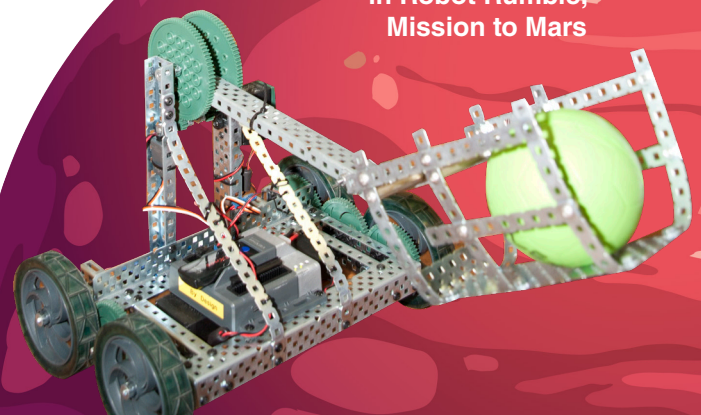
- Be able to identify the difference between rocky and gas planets along with defining features of our Solar System's planets.
- Understand the importance of Mars and the difficulties of getting there.
- Experience the complexities of piloting space rovers.
- Use teamwork, creativity and problem solving skills.

The Session Includes:

- Quick introduction to initially gauge your learners current understanding of the space.
- The first activity your students will take part in is a challenge to put the planets of our Solar System in order, to find out more about them.
- Students will then be given a worksheet and tasked with creating a mnemonic for remembering the order of the planets, before sharing their ideas with the class.
- The class will then move onto looking specifically at Mars and the complexities of getting there via a rocket.
- Learners are then given a worksheet to plan a trip to Mars, with the constraint of a weight limit that they must bear in mind when planning their journey.
- Now the learners have reached Mars they will look at how robots are used on Mars for scientific research before taking part in a challenge to control a Mars Rover.
- Each team member has around a minute to quickly become familiar with the VEX robot and score points for their team.
- The game rules change throughout the session, challenging the team to adapt.
- Finally, there's a discussion at the end around learners' ability to pick up a new technology and the challenges in controlling a real Mars Rover.



**Featuring VEX Robots
in Robot Rumble,
Mission to Mars**





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Benefits:

Demystify the complexities of space, as space travel and exploration are industries that are only going to grow. This session will offer learners an opportunity to consider future career aspirations by establishing an understanding, early on in their life. Plus they will explore the range of jobs in the space and STEM industries.

Curriculum Links:

English:

- Articulate and justify answers on what items they would take to Mars.
- Use mnemonics to create a unique way of remembering the planets.

Mathematics

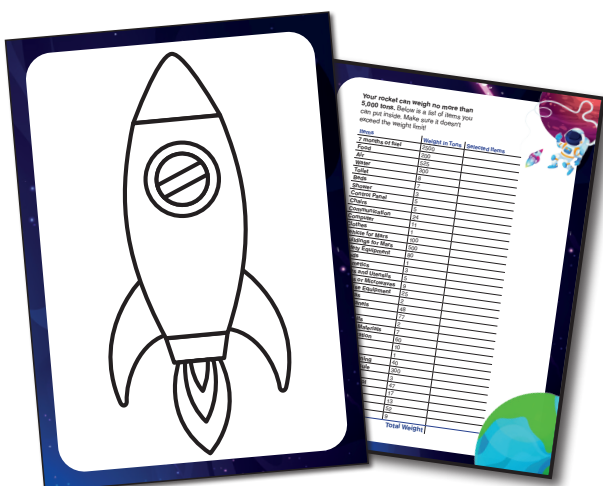
- Look at the relationship between stars with different masses, radii, and colour.
- Basic calculations involving planets with different amounts of gravity.
- Understand the units of measurements used when talking about space.

Science

- Look at the physics behind forces, including rocket engines and gravity.

Design and Technology

- Use artistic skills to design a poster to advertise a holiday to Mars.



Logistics and Planning:

The session is designed for around 30 learners, but larger groups may be accommodated upon request.

We ask that a teacher is always present throughout the activities, to support learner engagement and manage behaviour.

The room can be a standard classroom, but a projector, screen and power are required. Open floor space will be needed for the Robot Rumble - Mission on Mars activity.

Learners will need access to pens/pencils, as well as desks.

Why Choose Learn by Design?

Learn by Design are an ensemble of enthusiastic individuals, who have knowledge and experience from a plethora of fields. Each workshop is crafted with the utmost care, with the intent of igniting passion and curiosity in young people.

We have a network of ambassadors from varying fields of expertise that could attend and offer further insight into their work.

Looking to pair this activity? Check out our **STEM workshops** - any would be perfect. [Click here](#) to see pick a workshop!