

Suitable for
5-7 years

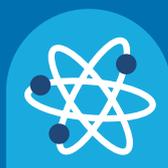
- Solo
- Pairs
- Groups

Sara's activity

Mission to Mars

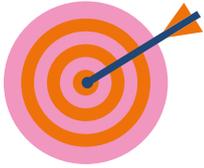
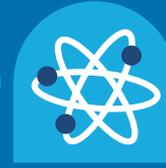
How to guide

Created and written by Lisa Wilson
Engineering consultant and Narrator Sara Motaghian
Sound scape by Frances Lynch



Sara's activity

Mission to Mars



Aim

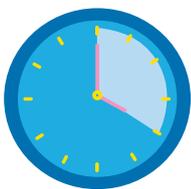
Encourage engineering and astronaut skills in your pupils by following along with these four short dance-drama workshops narrated and led by Sara Motaghian. Sara is an engineer working on instruments that will be used on the Exo 2022 Mars Rover.

Listening along to these audio tracks will mimic the conditions used by real astronauts training on earth by exploring the Arctic, a neutral buoyancy lab and the desert before heading to Mars itself on a mission to fix Rovers.

Each track is its own workshop and can be used in order to build up their confidence using dance and drama skills in your own time frame.

Sara will narrate the pupils through each exercise, and although they may need help finding partners or teams, the class should be able to listen and follow along themselves.

Pupils will increase their confidence using dance to tell stories independently, as pairs and in small groups. Each mission builds on the skills of the last, creating dances sequences and a performance element.



Timings

Time has been built in to complete each activity within the track, though you may want a remote handy to pause if you need extra time.

It is recommended that you plan for at least 30 minutes per Mission in the following order:

1. The Arctic
2. The Neutral Buoyancy Lab

- 3. The Desert
- 4. Mission to Mars



Materials and equipment

- A clear room such as a gym hall
- Speakers to play the tracks

Audio tracks can be found in the links below

- [The Arctic](#)
- [The Neutral Buoyancy Lab](#)
- [The Desert](#)
- [Mission to Mars](#)



Instructions

Start by reading your class Sara's letter to help them understand what they will be working towards.

Then work through each workshop in your own time, in a suitable space, to explore real skills and experiences used by astronauts and engineers using dance and drama.

Sara's letter to Engineers-in-Training

Dear Engineers-in-Training,

My name is Sara Motaghian, and I am a Space and Planetary Science PhD Researcher. This means that I work on some of the science instruments on board the ExoMars 2022 Rover, headed for Mars. A rover is a robot we have designed to send to another planet (or moon!) to explore and help us understand our solar system better.

I am a Scientist and Engineer, I help design, build, and test different systems to help us understand other planets, moons, or asteroids in our Solar system. I look at the information we get back from rovers and instruments on missions. This helps me to design software to make it as quick and useful as possible to use.

As well as science and space I also love to dance, paint and swim. Lots of scientists and engineers are very creative, it helps us imagine solutions to problems.

An astronaut is a person that has been trained and sent out on a Human Space Flight Mission. They work as Pilots, Engineers, Scientists, Leaders, and Programmers during their missions.

Engineers-in-training, I am going to need your help. We need to train up more people to go to space and explore planets. I am sending your teacher four missions to listen and move to. In each mission you will hear me talking you through a different part of astronaut training so that we can get ready to explore Mars together with our Rovers.

I think you already have some of the skills we need to learn about space, planets and robots like the Mars Rovers. Will you help me out by following the training?

Thank you Engineers,

I can't wait to get started with your training.
Best of luck with your Missions,

Sara



Experiences and Outcomes:

- I have the opportunity and freedom to choose and explore ways that I can move rhythmically, expressively and playfully.
EXA 0-0 8a
- I enjoy creating short dance sequences, using travel, turn, jump, gesture, pause and fall, within safe practice.
EXA 1-08a

- I have opportunities to enjoy taking part in dance experiences. EXA 0-10a
- I use drama to explore real and imaginary situations, helping me to understand my world. EXA 0-1 4a
- I can talk about science stories to develop my understanding of science and the world around me. SCN 0-20a
- I can describe some of the kinds of work that people do and I am finding out about the wider world of work. HWB 0-20a / HWB 1-20a
- I am learning to move my body well, exploring how to manage and control it and finding out how to use and share space. HWB 0-2 1a
- I am discovering ways that I can link actions and skills to create movement patterns and sequences. This has motivated me to practise and improve my skills to develop control and flow. HWB 1-2 1
- I am developing my movement skills through practice and energetic play. HWB 0-2 2a
- I am developing skills and techniques and improving my level of performance and fitness. HWB 1-2 2
- I am enjoying daily opportunities to participate in different kinds of energetic play, both outdoors and indoors. HWB 0-2 5
- I explore a variety of products covering a range of engineering disciplines. TCH 0-12a

Glossary of Terms

Engineer – an engineer is someone who designs, builds or tests machines and systems. There are lots of different types of engineers, from people who design bridges to people like Sara who design instruments to use in space! Engineers solve problems and fix things. Lots of different types of people can be engineers.

Instrument – an instrument on a Mars Rover measures something to give us more information. For example a thermometer that measures temperature could be called an instrument.

Mars Rover – a rover is a robot designed to explore other planets. Rovers collect information using different instruments and send this information back to us on earth. These include taking videos and photographs of a planet, measuring wind speed and temperature and even drilling for samples of rock.

Neutral buoyancy lab – A very deep swimming pool that astronauts use for training. It allows them to try their space suits in lower gravity than they would if they were training on land. Here they can test equipment before going on missions.

Space suit – a space suit is a large suit with a helmet that protects astronauts while they explore space. Space suits have gloves and boots attached as well as their own air supply.

Mars – Mars is the fourth planet from our sun. Planet Earth is the third planet from the sun. Because Mars is further away, it is colder than our planet.