



## Destination Space KS2

Duration: 1 hour, max capacity: 35 students

Students will encounter the wonders of spaceflight and explore the training that astronauts undertake. They will investigate the challenges of living and working in space, including dealing with space sickness, controlling robotic arms, optimising energy generation, and investigating what makes a good space nappy!

### Key Words:

Space, Materials, Human body, Exploration, Microgravity, Teamwork, Technology, International space station

### Content

Spin around and attempt to dock the magnetic Soyuz capsule on the correct part of the ISS.  
Form teams and compare exercises with different resistances to see which is more beneficial in space.  
Complete a challenge using robotic arms to test motor control and spatial awareness.  
Perform an experiment on mystery materials to test the absorbency of water and its use in maximum absorbency garments.  
Try to maximise the energy output of solar panels, like on the International Space Station (ISS)  
Construct rockets and help launch them towards a target using dramatically high air pressure.  
See how fuel, oxygen and heat interact in order to launch rockets and watch a video clip of a launch.

### Learning objectives. Students will:

Learn about astronauts' training to get them ready to visit the International Space Station (ISS).  
Understand the challenge of space-sickness and gain a sense of the disorientation.  
Understand the importance and benefits of 'resistance exercise' in microgravity conditions.  
Investigate how water is absorbed to prevent unwanted floating liquids in spacesuits.  
Investigate the best orientation of solar panels to generate the highest energy output.  
Establish that a large amount of energy and fuel is required to launch a rocket into space.  
Learn about the essential requirements (fire triangle) to enable rockets to be launched into space.

### Curriculum Links:

#### Year 3

##### Animals, including humans

Identify that humans and some other animals have skeletons and muscles for support, protection and movement.

#### Year 4

##### Living things and their habitats

Recognise that environments can change and that this can sometimes pose dangers to living things.

#### Year 5

##### Properties and changes of materials

Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible.

##### Forces

Explain that unsupported objects fall towards the Earth because of the force of gravity.

### Potential Hazards and accessibility

Firing of rockets towards people – students will be asked to move if they are in the firing zone.  
Light bulb gets hot in Solar Panel activity – students will be told not to touch it.

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**Workshop**

