

SCIENCE MUSEUM

GALLERY GUIDE

EXPLORING SPACE

INFORMATION



Age 7-11,
11-14, 14-16

Topic

SPACE

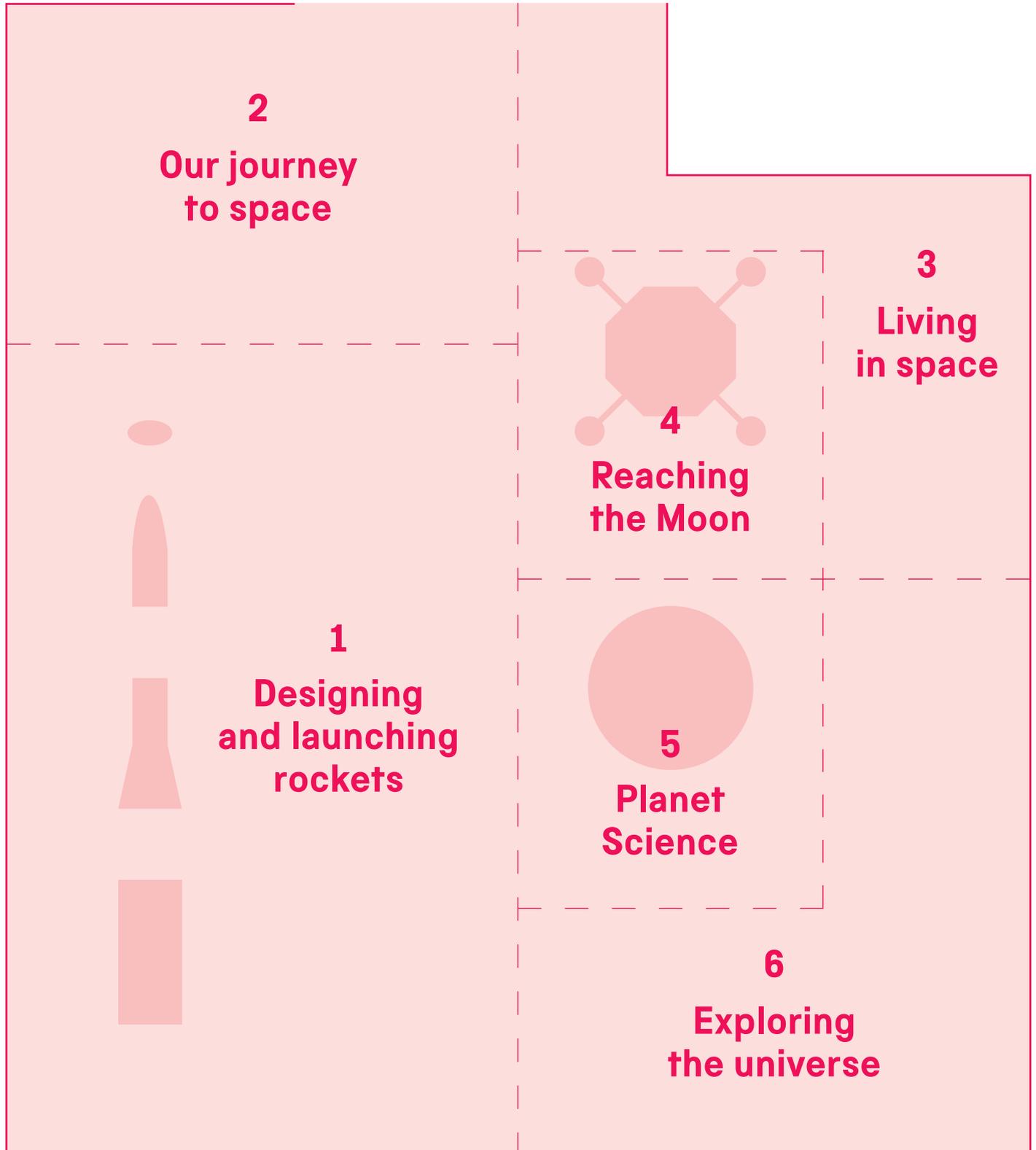
Location

LEVEL 0, SCIENCE MUSEUM, LONDON

Exploring Space reveals our curiosity about worlds beyond Earth and the technology we have developed to help us explore and survive in space.

Many objects are genuine spacecraft. In the gallery you will find out how rocket technology developed, how we have adapted to living in space and what the future of space exploration might hold.

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1 Designing and launching rockets

Rocket design has come a long way in a very short amount of time. Heavier loads meant more fuel was needed and so the designs had to accommodate this. Most modern rockets have multiple fuel stages which detach once they are empty.

Don't miss: Black Arrow R4 launch vehicle, 1971

This British three-stage rocket was built to launch satellites. After each stage had used up its fuel it would detach, making it easier for the rocket to accelerate.



2 Our journey to space

Sending people to space requires a huge amount of engineering effort. The part of the rocket that houses the astronauts needs to withstand massive amounts of pressure and heat to keep its passengers safe.

Don't miss: Soyuz TMA-19M, 2015–2016

This Russian-made spacecraft successfully travelled to and from the International Space Station, a large spacecraft in orbit around the Earth. The crew included British astronaut Tim Peake.



3 Reaching the Moon

One of the biggest challenges of the Space Race was to send the first crewed spacecraft to the Moon. The contest between the United States and the Soviet Union to achieve this pushed technology forward rapidly, but it was the Americans who got there first in 1969.

Don't miss: Eagle Lunar Module, 1969 (replica)

This is a life-sized replica of the Apollo 11 Lunar Module which landed astronauts on the Moon for the first time. Part of the real spacecraft remains there today.



4 Living in space

Life on a spacecraft is very different to life on Earth. Because of the weightlessness and lack of oxygen in space, astronauts need creative solutions to help them achieve everyday tasks that we take for granted, such as eating, sleeping and going to the toilet.

Don't miss: Helen Sharman's spacesuit, 1991

Helen Sharman became the first Briton to travel into space wearing this suit. It was tailor-made for her and has an airtight rubber inner layer topped with an outer layer of nylon canvas.



5 Planet Science

We have a huge amount of data and information about our own planet and others. Through 3D technology we can use this data to help us better understand complex patterns such as ocean currents and our climate.

Don't miss: 3D globe

This 3D globe uses four projectors to bring to life real data collected from various satellites and flyby spacecraft.

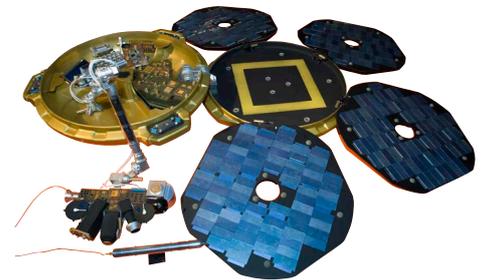


6 Exploring the universe

We have sent many rovers, landers and satellites to explore the farther reaches of the Solar System. Each mission needs specially designed spacecraft to endure the long journeys and extreme conditions.

Don't miss: Beagle 2 Mars lander, 2003 (replica)

Beagle 2 was a British Mars lander sent to look for evidence of past life on the Red Planet. Unfortunately, only two of its four solar panels opened when it landed, which blocked communication with Earth.



Talk about...

As you explore the gallery, think and talk about how the technology of space exploration is connected to our everyday lives. Use these questions as a starting point to inspire you to come up with more of your own:

- What interests or surprises you about what you have found in this gallery?
- Would you like to visit space? What would you take with you to remind you of home?
- What do you think it would feel like to wear a spacesuit?

Make the most of your visit

There are so many objects to explore in this gallery.

Be sure to look all around you as there are many things hanging from the ceiling and in cases and corners that you might miss.

Look out for a large glass display case. Inside, there is a small sample of genuine Moon rock brought back from the Apollo 15 mission. It is kept in a sealed case of nitrogen so it isn't exposed to the Earth's atmosphere.

Explore more...

There are lots more items related to space exploration in the rest of the museum. In *Making the Modern World* you can find the Apollo 10 Command Module and a V-2 rocket, the world's first long-range missile.

Continue the experience back in the classroom and at home too. The Science Museum website features lots of hands-on activities inspired by the principles demonstrated in the gallery, which you can use to investigate the science in your world.