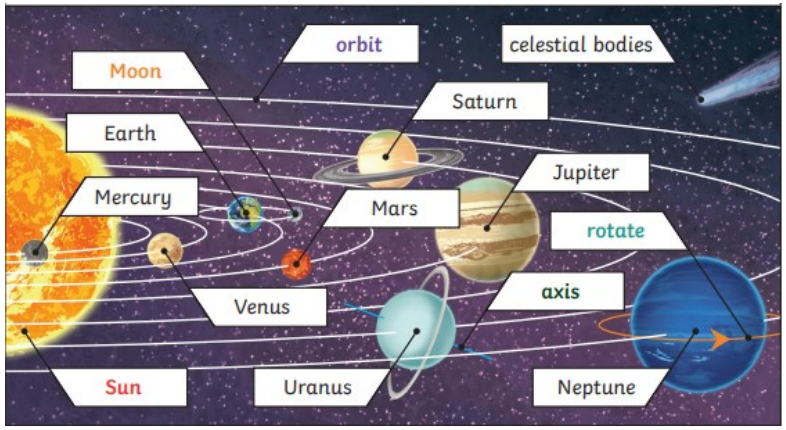
Earth and Space | Autumn 1

Key Events	
13.7 billion years ago	Beginning of the universe
4.5 billion years ago	Formation of the Earth
4th October 1957	First satellite in space
12th April 1961	First human to orbit Earth (Yuri Gagarin)
16th June 1963	First woman in space (Valentina Tereshkova)
20th July 1969	First human on the moon (Neil Armstrong)
2nd November 2000	First resident crew to occupy the International Space Station (ISS)
14th July 2015	First spacecraft to fly to Pluto (New Horizons)

Key Knowledge

Mercury, Venus, Earth and Mars are rocky planets. They are mostly made up of metal and rock. Jupiter, Saturn, Uranus and Neptune are mostly made up of gases (helium and hydrogen) although they do have cores made up of rock and metal.



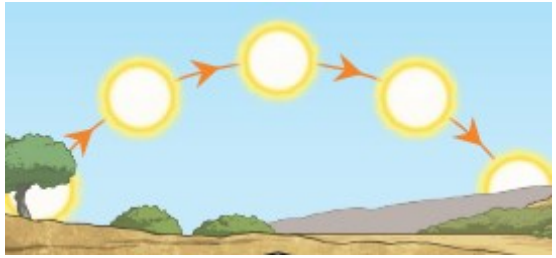
The Moon orbits Earth in an oval-shaped path while spinning on its axis. At various times in a month, the Moon appears to be different shapes. This is because as the Moon rotates round Earth, the Sun lights up different parts of it.

Earth rotates (spins) on its axis. It does a full rotation once in every 24 hours. At the same time that Earth is rotating, it is also orbiting (revolving) around the Sun. It takes a little more than 365 days to orbit the Sun. Daytime occurs when the side of Earth is facing towards the Sun. Night occurs when the side of Earth is facing away It appears from the Sun.

Sun	A huge star that the Earth and other planets in our solar system orbit around.
Star	A giant ball of gas held together by its own gravity.
Moon	A natural satellite that orbits Earth or other planets.
Planet	A large object, large or nearly round, that orbits a star.
Spherical Bodies	Spherical bodies are astronomical objects that are shaped like spears.
Satellite	Any object or body in space that orbits something else.
Orbit	To move in a regular, repeating, curved path around another object.
Rotate	To spin e.g. the Earth rotates on its own axis.
Geocentric Model	A belief people used to have that other planets and the sun orbited around Earth.
Heliocentric Model	The structure of the solar system where the planets orbit around the sun.
Astronomer	Someone who studies or is an expert in astronomy.

Day and Night

It appears to us that the Sun moves across the sky during the day but the Sun does not move at all. It seems to us that the Sun moves because of the movements of Earth.



SETI

The Search for Extra-Terrestrial Intelligence, or SETI is an organization which is constantly scanning the skies for signs of alien life. They analyse radio-waves from space, looking for anything which could be a message from another world. So far, they have had a few tantalizing false alarms, but no confirmed signals. The search continues.

Task 1 Use torches and balls to make a model explaining why we have day and night. Submit photographs to Dojo.	Task 2 Create a space-themed board game.	Task 3 Make the moon phases out of oreos.
Task 4. Find out about the conditions of a chosen planet in the solar system. Design an alien that would be able to live in these conditions.	Task 5 Use the internet to find some of the sounds that have been recorded on Mars. Write a description three of these sounds.	Task 6 Create a timeline showing how scientists created the heliocentric model.