

SCIENCE: Physics - Space

Autumn A

Year 5

Key Ideas

The Sun is a star and the planets are all spheres.

A calendar year is 365 days; an orbital year is 365¼ days, so every four years we have a 'leap year' with an extra day (366 days).

The Earth's rotation causes night and day.

The time of our sunrises and sunsets change through-out the year and around the World.

The Earth's tilt causes seasons. The seasons in the northern hemisphere are different from those in the southern hemisphere and from those in tropical regions.

The Moon changes shape because we cannot always see the entire illuminated half from the Earth.

Key Questions

Can you explain how the planets and Earth move around the Sun?

How was the length of a year decided in ancient times?

Can you explain why the sun appears to move across the sky from east to west?

What do the lines of longitude of a map help tell you about time?

How does the tilt of the World cause seasons?

What are the phases of the Moon?

Key words

Explanation

dwarf planet	A mostly round object that is smaller than a regular planet and has smaller space objects nearby them (unlike a planet).
galaxy	A huge collection of gas, dust, and billions of stars and their solar systems, all held together by gravity.
orbit	The path that an object takes in space when it goes around a star, a planet, or a moon
planet	Large natural objects that orbit, or travel around, stars.
rotate	When something turns or spins around a point located at its centre.
Solar system	The sun and everything that orbits, or travels around it. This includes the eight planets and their moons, dwarf planets, asteroids, comets and other small, icy objects. Much of the solar system is empty space.
sphere	A shape in space shaped like a ball.
star	A huge, glowing ball of gases. The closest star to Earth is the sun.

Key Figures

Galileo Galilei
(1564-1642)



As well as inventing the telescope, he discovered the Rings of Saturn and that Jupiter has 4 main moons. These moons are now called Galilean Moons.

Katherine Johnson
(1918-2020)



An American mathematician whose calculations of orbital mechanics as a NASA employee were critical to the success of the first and subsequent U.S. crewed spaceflights

Helen Sharman
(1963 to date)



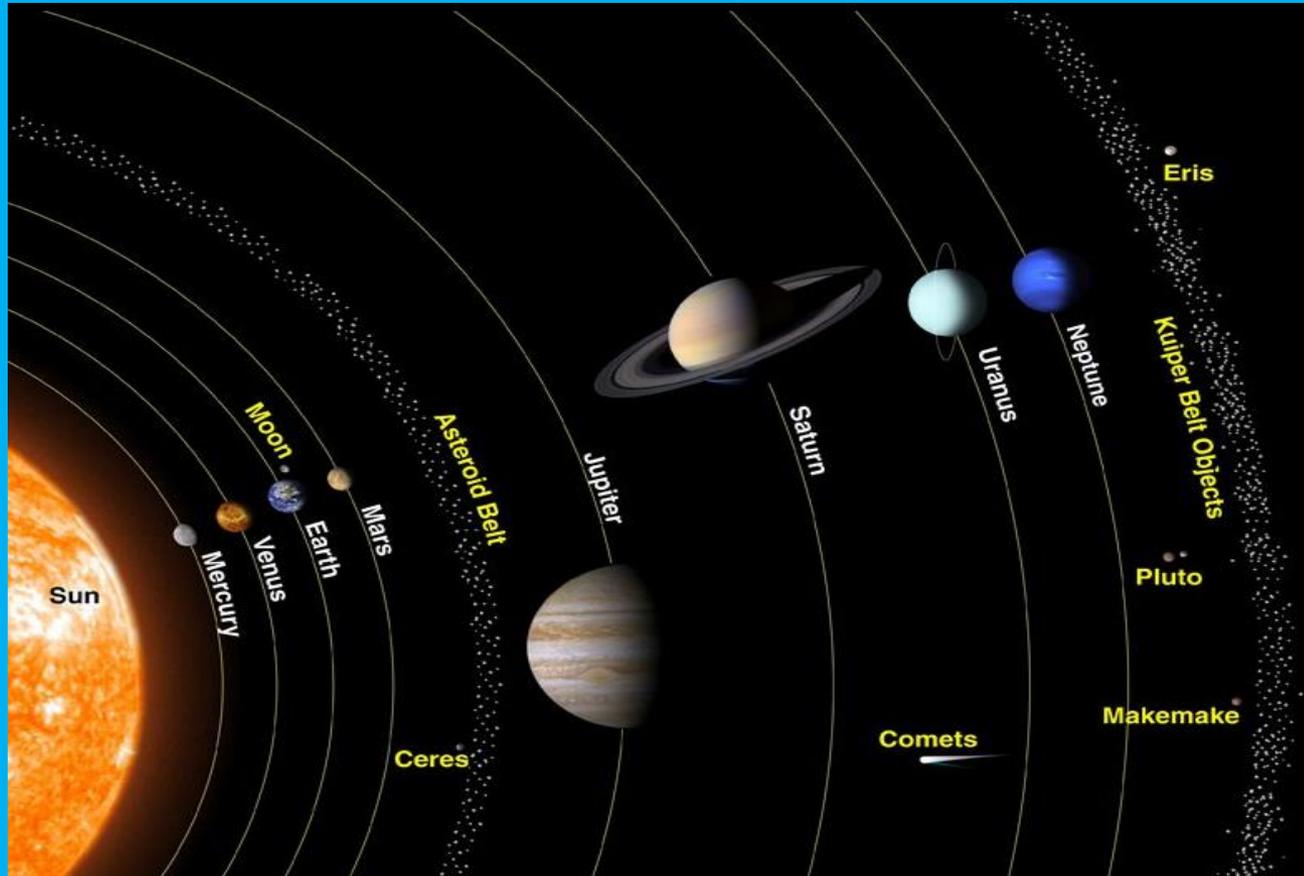
The first British astronaut as well as the first woman to visit the Mir space station in May 1991.

Tim Peake
(1972 to date)



First male British ESA (European Space) astronaut. who was launched into space on 15 December 2015.

Our Solar System



Linked skills:

Tables:

A table is a set of facts and figures arranged in columns and rows and is a very useful way of organising numerical information or data.