Year 5: Earth and space Autumn 2 Year A

What should I already know? That we have different seasons throughout the year and that the length of day varies throughout the year.

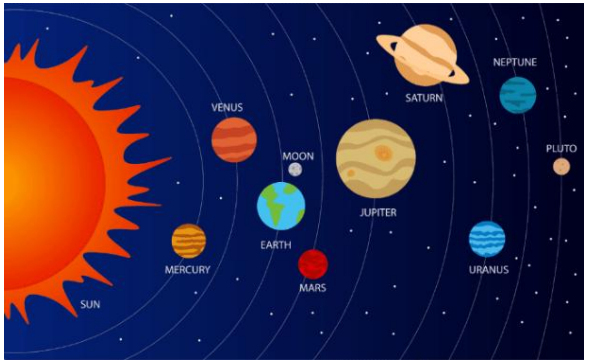
Key Vocabulary

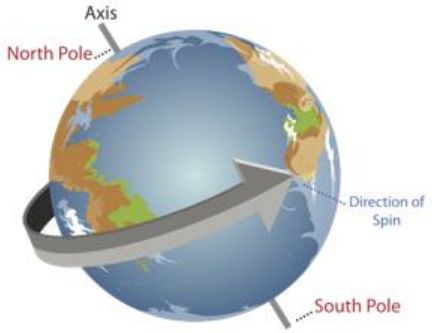
Earth	Our planet; third from the sun and fifth largest in galaxy.
Sun	Ball of hot plasma at the centre of the solar system.
Moon	Object orbiting a planet that is not a star. (Natural satellite)
Galaxy	Huge collection of gas, dust, and billions of stars and their solar systems.; held together by gravity.
Solar system	The gravitationally bound system of the sun and objects that orbit it.
Big Bang	The idea that the universe began as just a single point, then expanded and stretched to grow as large as it is right now.
Planet	A relatively large spherical body that orbits around the sun.
Star	Luminous ball of gas, mostly hydrogen and helium, held together by its own gravity.
Rotation	A planet's spinning motion about its own axis.
Satellite	A moon, planet or machine that orbits another planet or star.
Orbit	A regular repeating path that planet, moon or machine takes around another.

I am learning to

- Name and recognise the planets within our solar system.
- Describe the movement of the Earth, and other planets, relative to the Sun in the solar system
- Identify Mercury, Venus, Earth and Mars as rocky planets. which are mostly made up of metal and rock.
- Identify that Jupiter, Saturn, Uranus and Neptune as planets mostly made up of gases (helium and hydrogen) although they do have cores made up of rock and metal.
- Understand the rotation of the Earth, moon and sun and how day and night occur.
- Understand how the Earth spins on its axis.

Scientific diagrams





Key misconceptions

It appears 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. Some people think that the Moon is a light source when it in fact reflects the light emitted by the Sun.

Key skills - working scientifically

- Ask questions and develop a line of enquiry based on observations of the real world, alongside prior knowledge and experience.
- Make predictions using scientific knowledge and understanding.
- Select, plan and carry out the most appropriate types of scientific enquiries to test predictions.

Key scientists

Galileo (1564 - 1642) was an Italian philosopher who is known for his contributions to motion and astronomy.

Stephen Hawking (1942 - 2018) was born during WW2 and spent most of his life uncovering the fundamentals of the universe; famously his work on black holes.

Katherine Johnson (1918 - 2020) was an African American mathematician who worked for an agency completing complex mathematical calculations prior to the invention of computers and calculators. The agency she worked for eventually became NASA.

What will I be learning next?

- Gravity forces between Earth and Moon, and between Earth and Sun.
- Our Sun as a star, other stars in our galaxy, other galaxies.
- The light year as a unit of astronomical distance.