

Enquiry Question: How do the movements of the solar system effect life on earth?

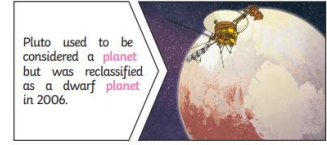
Key Vocabulary

Sun	A huge star that Earth and the other planets in our solar system orbit around.
star	A giant ball of gas held together by its own gravity.
moon	A natural satellite which orbits Earth or other planets .
planet	A large object, round or nearly round, that orbits a star .
sphere	A round 3D shape in the shape of a ball.
spherical bodies	Astronomical objects shapes like spheres .
satellite	Any object or body in space that orbits something else, for example: the Moon is a satellite of Earth.
orbit	To move in a regular, repeating curved path around another object.
rotate	To spin. E.g. Earth rotates on its own axis .
axis	An imaginary line that a body rotates around. E.g. Earth's axis (imaginary line) runs from the North Pole to the South Pole.
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 (space science).

What should I already know?

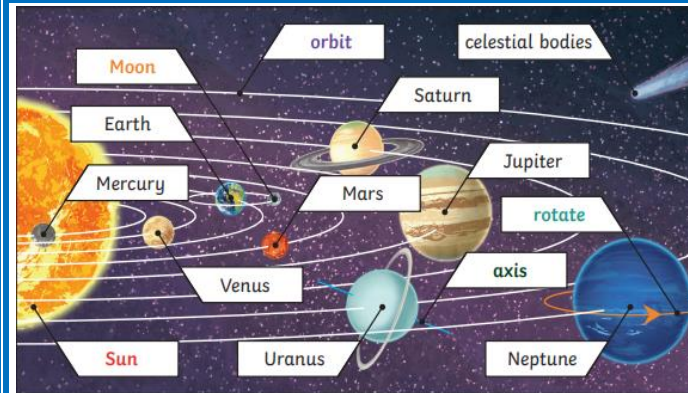
The earth is spherical.
 The weather changes in association with the seasons.
 When the seasons change, this effects daylight hours.

The Order of Planets in our Solar System



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.

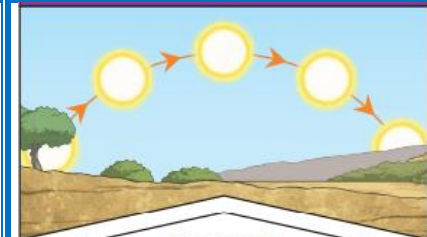
Our Solar System and Space Theories



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 from the **Sun**.



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.

Geocentric model
 Years ago people believed that **planets** moved around the Earth.



The work and ideas of many **astronomers** (such as Copernicus and Kepler) combined over many years before the idea of the **heliocentric model** was developed. Galileo's work on gravity allowed **astronomers** to understand how **planets** stayed in **orbit**.



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.



Hyde Park Junior School - Science

Topic: Earth and Space

Year: 5

Strand: Physics

Enquiry Question: How do the movements of the solar system effect life on earth?

Question 1:	Start of unit:	End of unit:
How many planets are there in our Solar System?		
Write the planets in order from the sun.		

Question 2:	Start of unit:	End of unit:
Name any famous astronomers that you know?		

Question 3:	Start of unit:	End of unit:
What do planets in our Solar System orbits around?		

Question 4:	Start of unit:	End of unit:
Which of these planets is not a rocky planet?		
Mercury		
Mars		
Neptune		

Question 5:	Start of unit:	End of unit:
Explain why the sun appears to move across the sky.		

Question 6:	Start of unit:	End of unit:
Describe the cycle of the moon and the effect of the Sun lighting up different parts of the Moon as it orbits the Earth.		