

## Saint Elizabeth's Knowledge Mat

Year: 5 Subject: Science

# **Topic:** Earth & Space



Earth and Space

### 1. What I Know Already

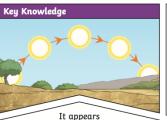
- -To observe the **apparent** movement of the Sun during the day (KS1)
- -The planets in our solar system and their order from the Sun (KS1)
- -That the length of a day varies in line with seasonal changes (Y1)
- -That gravity is a pulling force exerted by a planet (Y5)

### 2. Key Concepts- What I'll Learn

The Earth and moon are  $spherical\ bodies$ , meaning they are spheres.

Whilst it appears to us that the Sun moves across the Sky during the day, it doesn't really move at all. It seems that way because of the Earth's **rotation** on its **axis.** 

The solar system is **heliocentric**, meaning that all planets orbit the sun – which is in the centre of our solar system. Many years ago, people believed it was the other way around and that the sun orbited the Earth (geocentric).



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.



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.



Image A- showing our solar system (not to scale)

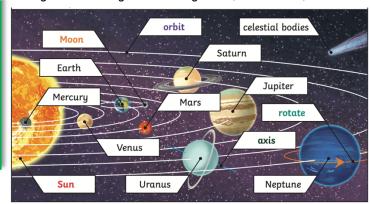


Image B- the orbit of the Moon



The Moon orbits Earth in an ovalshaped 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.

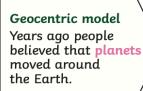
Image C- the heliocentric model of the solar system



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.



Image D- the geocentric model (proven incorrect!)





### 3. <u>Key Vocabulary</u>

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forces	Pushes or pulls.
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.
astronomer	Someone who studies or is an expert
	in astronomy (space science).
geocentric	A belief people used to have that
model	other plants and the Sun orbited
	around Earth.
heliocentric	The structure of the Solar System,
model	where the planets orbit around the
	Sun.
moon	A natural satellite which orbits Earth
	or other planets.
orbit	To move in a regular, repeating
	curved path around another object.
planet	A large object, round or nearly
•	round, that orbits a star.
rotate	To spin e.g. Earth rotates on its own
	axis.
satellite	Any object in space that orbits
	something else, for example: the
	moon is a satellite of Earth.
sphere	A round 3D shape in the shape of a
•	ball.
spherical	Astronomical objects shapes like
bodies	spheres.
star	A giant ball of gas held together by
	its own gravity.
Sun	A huge star that Earth and the other
	planets in our solar system orbit
	around.