

# Bishop Bronescombe C of E Primary School



Topic: Earth and Space

Year 5/6

Strand: Physics

## What your child should already know:

- Seasonal changes-how day length changes
- Lives of significant individuals in the past who have contributed to national and international achievements-The Space Race (History topic)

## By the end of the unit, your child should be able to:

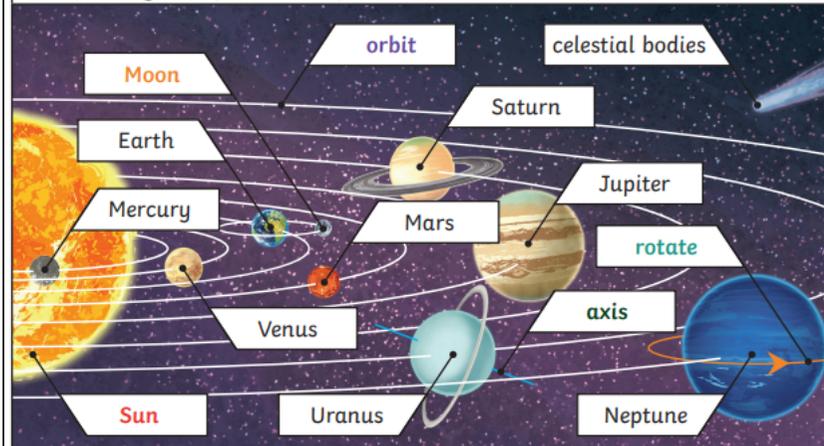
- describe the movement of the Earth, and other planets, relative to the Sun in the solar system
- describe the movement of the Moon relative to the Earth
- describe the Sun, Earth and Moon as approximately spherical bodies
- use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.



## 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.

Our Solar System (not to scale)



Pluto used to be considered a **planet** but was reclassified as a dwarf **planet** in 2006.



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.



## Key Vocabulary

Word	Meaning
<b>Sun</b>	A huge star that our Earth and other planets in the solar system orbit around
<b>Star</b>	A giant ball of gas held together by its own gravity
<b>Moon</b>	A natural satellite which orbits Earth and other planets
<b>Planet</b>	A large object, round or nearly round, that orbits a star
<b>Spherical body</b>	Astronomical bodies shaped like spheres
<b>Satellite</b>	An object or body in space that orbits something else, for example: the Moon is a satellite of Earth
<b>Orbit</b>	To move in a regular, repeating curved path around another object.
<b>Rotate</b>	To spin e.g. Earth rotates on its own axis
<b>Axis</b>	An imaginary line that a body rotates around e.g. Earth's axis (imaginary line) runs from the North Pole to the South Pole
<b>Geocentric model</b>	A belief that people used to have that other planets and the sun orbited around Earth
<b>Heliocentric model</b>	The structure of the solar system where the planets orbit around the sun
<b>astronomer</b>	Someone who studies or is an expert in astronomy (space science)

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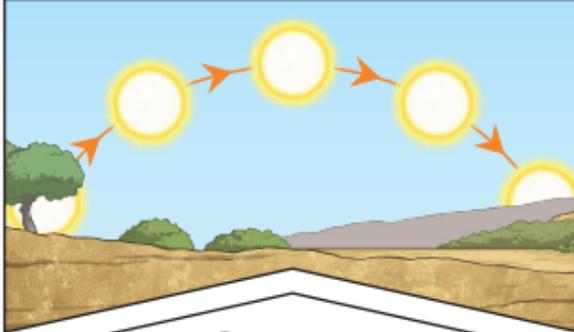


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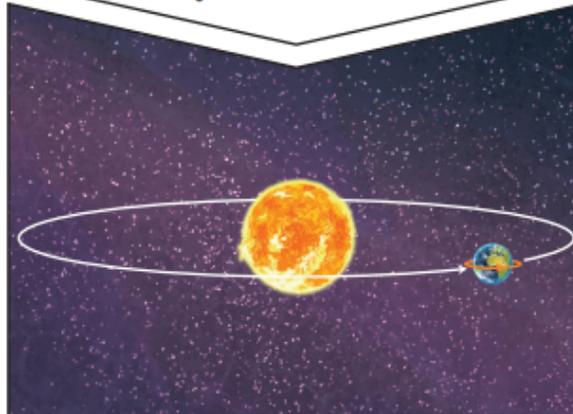
## Key Knowledge



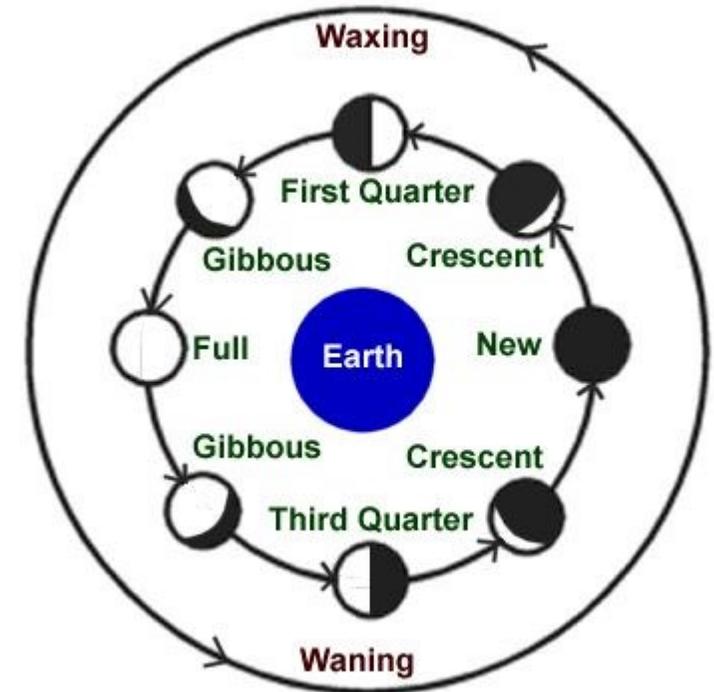
It appears to us that the **Sun** moves across the sky during the day but the **Sun** does not move at all. It seems to us that the **Sun** moves because of the movements of Earth.



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**.

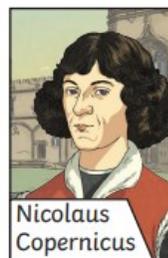
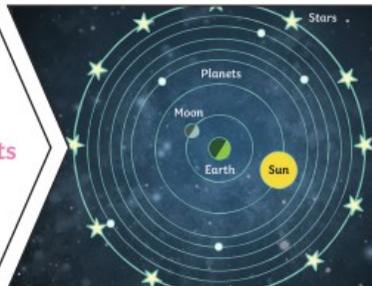


When the moon appears to be getting bigger, it is waxing.  
When it appears to be getting smaller, it is waning.



## Geocentric model

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



Nicolaus Copernicus

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**.

