Science Knowledge Organiser - Year 5

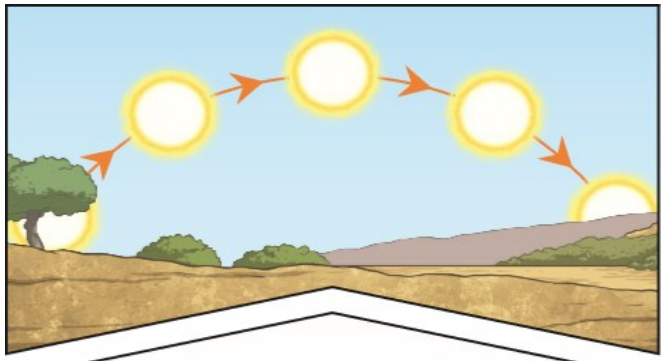
Unit: How does our position and movement in the solar system affect us?

Key Vocabulary:

axis	An imaginary line that a body rotates around is known as an **axis**.
celestial body	**Celestial bodies** are natural objects which are located outside of the Earth's atmosphere.
geocentric model	The **geocentric model** shows us that people used to believe the Earth was the centre of our solar system.
heliocentric model	The **heliocentric model** proves what we know to be true: the Sun is the centre of our solar system.
moon	A **moon** is a natural satellite that orbits a planet.
orbit	An **orbit** is a repeating path that one object takes around another in space.
planet	A **planet** is a large object, which is round or nearly round, that orbits a star.
rotate	To **rotate** is to spin.
satellite	Any object or body in space that orbits something else is known as a **satellite**.
solar system	Our **solar system** is made up of the Sun and everything that orbits around it.
star	A **star** is a giant ball of gas held together by its own gravity.
Sun	The planets in our solar system orbit around a huge star called the **Sun**.

Science Skills:

- **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.**
- Identify scientific evidence that has been used to support or refute ideas or arguments.
- Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms.

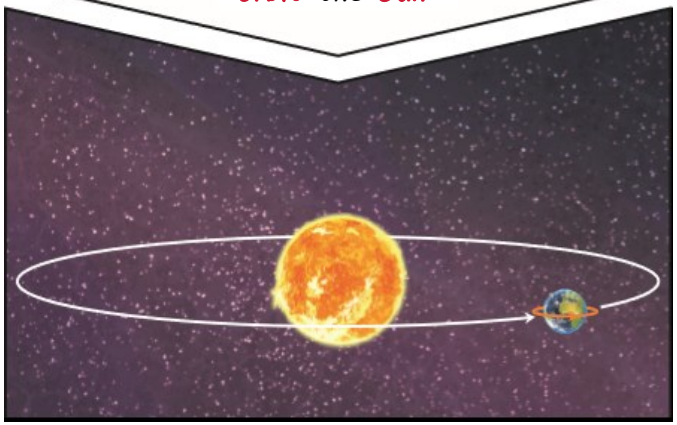


It appears to us that the **Sun** moves across the sky during the day but the **Sun** does not move at all. It is in fact the movements of the Earth on its **axis** that cause this illusion.

Key Facts:

- Some of the **planets** in our **solar system** are rocky; others are made up of gases.
- The **Sun** appears to move across the sky but it does not move at all.
- Earth completes a full **rotation** on its **axis** every 24 hours.
- It takes just over 365 days for Earth to **orbit** the **Sun**.

Earth **rotates** on its **axis**. It does a full **rotation** once every 24 hours. Daytime occurs when part of the Earth is facing the **Sun**. Night occurs when part of the Earth is facing away from the **Sun**. At the same time that Earth is **rotating** on its **axis**, it is also **orbiting** the **Sun**. It takes a little more than 365 days for Earth to **orbit** the **Sun**.



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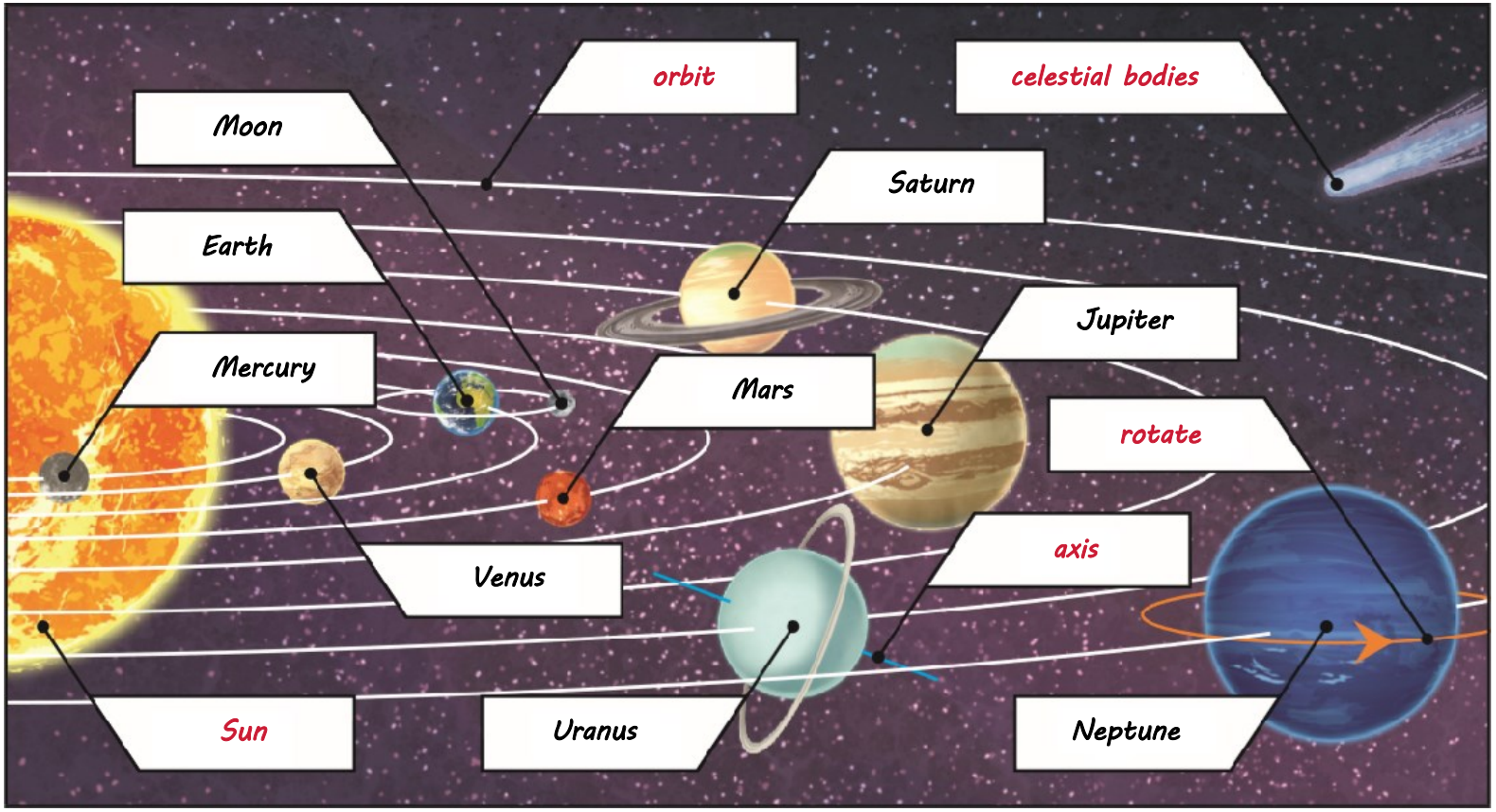
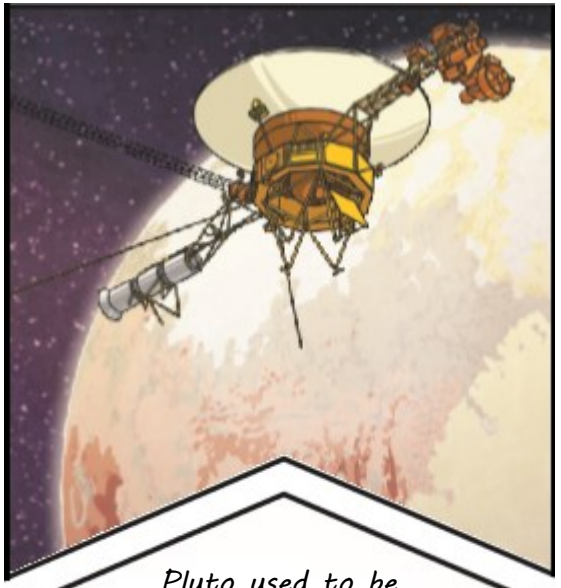
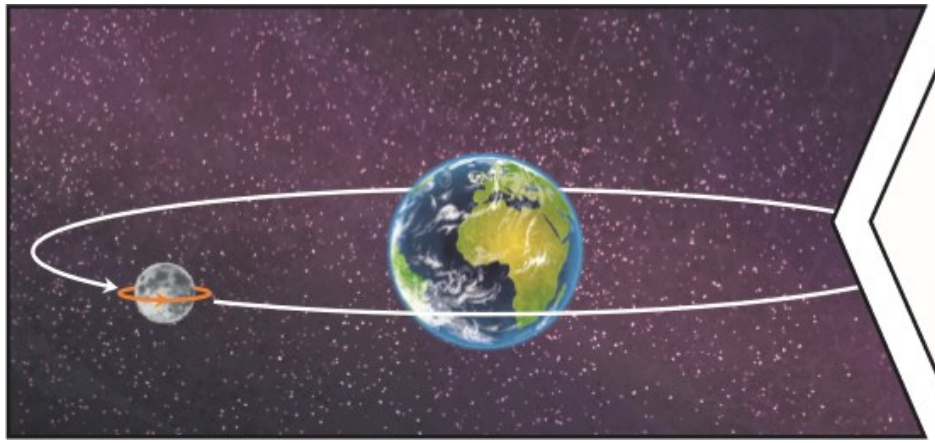




Pluto used to be considered a **planet** but was downgraded and reclassified as a dwarf **planet** in 2006. It does not meet the criteria to be classified as a full-sized **planet**.

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.



The **Moon** is 384,400km away from Earth. It **orbits** Earth in an oval-shaped path whilst also spinning on its **axis**. At various times in a month, the **Moon** appears to be different shapes because, as it **rotates**, the **Sun** lights up different portions of it.