

YEAR 5 SCIENCE KNOWLEDGE ORGANISER

EARTH AND SPACE

How does the Sun, Earth and Moon move?

The Sun, Earth and Moon's shape is roughly spherical.

The Earth orbits the Sun.

The Earth takes 1 year to orbit the Sun

The Earth is held in its orbit round the Sun by the Sun's gravitational pull.

The moon orbits the Earth.

It takes about 28 days for the Moon to orbit the Earth.

The Moon is held in its orbit round the Earth's gravitational pull.

| Key Vocabulary | |
|-----------------------|--|
| Earth | The planet we live on. It is the third planet from the Sun. |
| Sun | The Sun is the star at the centre of our solar system. |
| Moon | The moon is the only natural satellite of the Earth. |
| planets | Large round objects, made of rock or gas, that move around the sun. |
| solar system | The sun and all the planets that orbit around it. |
| star | A huge ball of glowing gas in space. |
| rotate | When an object rotates it turns (spins) on its axis. |
| orbit | The curved path that an object follows going around a star or a planet. |
| Celestial body | A natural object that exists outside the Earth's atmosphere, eg stars, planets, asteroids, comets, and meteoroids. |

The rotation of the Earth

The Earth spins on its own axis.

The Earth takes 24 hours (1 day) to completely rotate.

What causes day and night?

The Earth spins once in a day.

The side of the Earth facing the Sun is in daytime.

The side of the Earth facing away from the Sun is night time.

What causes Sunrise and Sunset?

The Sun doesn't move – it is us that moves.

Because the Earth is rotating, the sun appears to move across the sky as the day goes on.

Seasons

Every year our planet experiences four seasons: autumn, winter, spring and summer.

As Earth moves around the Sun it spins in a slightly tilted position. This tilt is what causes our seasons because through the year different parts of the planet are angled towards or angled away from the Sun's light. More or less sunlight and heat impact on the length of each day and the average daily temperature in different seasons, as well as the amount of rainfall.

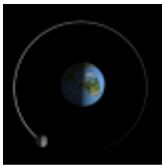


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Phases of the Moon

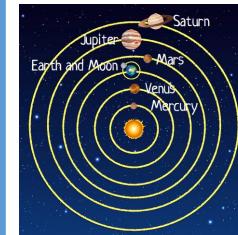
The moon orbits the Earth. It takes about 28 days to complete its orbit.



The phases of the moon are caused by its orbit around the Earth. As the moon orbits the Earth, we can see a different amount of the moon is lit by the sun from Earth.

Theories about our Solar System

The heliocentric model of the solar system places the Sun at the centre, with the planets orbiting it.



The geocentric theory is described as the Earth being the centre of the solar system.



The Solar System

The Sun is a star at the centre of our solar system.



There are 8 planets in our solar system: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.

These all orbit the Sun.

Sequence of Planets

| | |
|---------|---|
| Mercury | The smallest planet |
| Venus | The largest in the sky from Earth |
| Earth | The only planet with water on the surface |
| Mars | Known as the 'Red Planet' |

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| | |
|---------|---|
| Jupiter | The largest planet, a gas giant |
| Saturn | Famous for its rings, a gas giant |
| Uranus | A gas giant |
| Neptune | Blue in colour due to high methane levels |
| Pluto | This used to be a planet but is now known as a 'dwarf planet' |