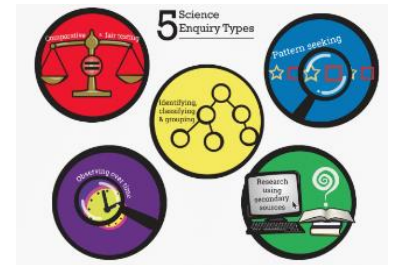


Year 5 Summer Term

Earth and Space



Prior knowledge

Not covered – new learning.

National Curriculum for year 5

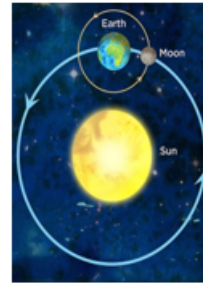
describe the movement of the Earth and other planets relative to the sun in the solar system - describe the movement of the moon relative to the Earth - describe the sun, Earth and moon as approximately spherical bodies - use the idea of the Earth's rotation to explain day and night and the apparent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

Overview



- The **Earth** (our planet) is a part of the **Solar System**. At the centre of the Solar System is the **Sun**. The Sun is a **star**.
- There are 8 planets and 5 dwarf planets in the Solar System, which orbit (go around) the Sun.
- It takes Earth just over 365 days to go around the Sun (one year).
- The Earth rotates on its axis once every 24 hours (one day). This causes day and night, as different parts of the planet face the Sun.
- The Moon orbits around the Earth. The Sun, Earth and Moon are all roughly spherical.

The Sun and the Moon



- The **Sun** is a star: a huge ball of hot gas that gives off light & heat. The Earth (and all of the planets in the Solar System) orbit the Sun.
- It takes the Earth just over 365 days to make one complete orbit around the Sun – this is **one year**. The Earth and other planets are held in place around the Sun by gravity – the same force that keeps you on the Earth!
- The Earth is always spinning around. When a point on Earth is facing the Sun, it is daytime. When facing away, it is nighttime. It takes 24 hours for the Earth to complete a spin (**one day**).
- Some objects orbit around the planets. These are called moons. The Earth has one moon (just called **The Moon**). The Moon is much smaller than the Earth, and takes one full day to complete an orbit around the Earth.

The Solar System

- The **Solar System** includes the Sun and all of the objects that orbit around it due to **gravity**.
- The Earth is one of eight planets that orbit the Sun. It is the third closest to the Sun.
- The **planets** are (from closest to furthest away from the Sun) Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. Jupiter is the largest planet and Mercury is the smallest.
- There are also five **dwarf planets**: Haumea, Makemake, Ceres, Eris and Pluto.
- Earth is the only known planet in the Solar System where there are living things. The planets closer to the Sun are thought to be too hot, whilst some of those further away are too cold.
- You could fit about 1,321 Earths inside Jupiter. You could fit 1.3 million Earths into the Sun!
- Many of the planets (including Earth) have **moons** which orbit them. Jupiter has around 80 moons!
- The Sun is gigantic, but it is just one of billions of stars in our galaxy: **The Milky Way**. The Milky Way is just one of billions of galaxies in **the Universe**!



Planet Facts

Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune
Area: 0.147 Earths 8 th Largest	Area: 0.902 Earths 6 th Largest	Area: 1 Earth! 5 th Largest	Area: 0.284 Earths 7 th Largest	Area: 121.9 Earths 1 st Largest	Area: 93.7 Earths 2 nd Largest	Area: 45.91 Earths 3 rd Largest	Area: 45.91 Earths 4 th Largest
Moons: None	Moons: None	Moons: 1 moon	Moons: 2 moons	Moons: Around 80 moons	Moons: Around 65 moons	Moons: Around 30 moons	Moons: Around 15 moons
Length of Day: 1,408 hours	Length of Day: 5,832 hours	Length of Day: 24 hours	Length of Day: 25 hours	Length of Day: 10 hours	Length of Day: 11 hours	Length of Day: 17 hours	Length of Day: 16 hours
Length of Year: 88 days	Length of Year: 225 days	Length of Year: 365 days	Length of Year: 687 days	Length of Year: 12 Years	Length of Year: 29 Years	Length of Year: 84 Years	Length of Year: 165 Years

Key vocabulary

Axis, Rotation, Phases of the Moon, star, constellation, Earth, Sun, Moon, Day, Night,

Suggested texts

(Foxton) Earth and space

How are all the planets connected?

Can you discuss the movement of the moon, in relation to the Earth?

Scientists

- Margaret Hamilton- Computer scientist (Moon Landings)
- Stephen Hawking- Black Holes
- Mae Jemison – Astronaut
- Claudius Ptolemy and Nicolaus Copernicus - Heliocentric vs Geocentric Universe
- Neil Armstrong- First man on the Moon
- Helen Sharmar- GB astronaut
- Caroline Herschel- First to find a comet
- Valentina Tereshkova-Cosmonaut

Dr Sian Proctor- Analogue Astronaut

The Planets

Mercury

Venus

Earth

Mars

Jupiter

Saturn

Uranus

Neptune

