



Year 5 – Earth and space

Other planets have moons too – scientists know think that Jupiter has 79 moons!

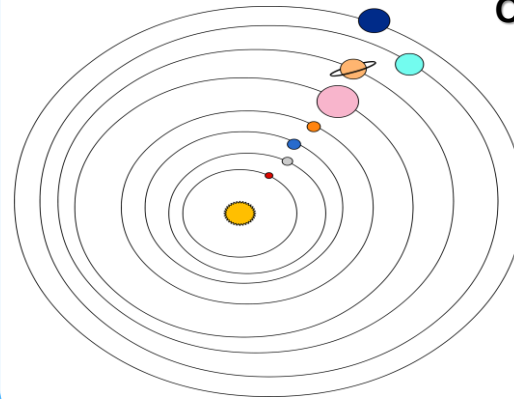
It actually takes the Earth 365.25 days to orbit the sun, which is why every four years we have a leap year of 366 days, to catch up with the orbit!

ROCKET WORDS

– learn these words and their definitions

| Key Word | Definition |
|--------------------|---|
| star | A giant ball of gas, held together by its own gravity. They gives out massive amounts of heat and light energy. |
| planet | A large spherical body that orbits a star |
| moon | A natural satellite, which orbits an planet |
| astronomers | Scientists who study space (astronomy) |
| heliocentric model | The structure of the Solar System where the planets orbit around the Sun |
| geocentric model | A belief that people used to have that the Sun and the planets orbited around the Earth. |
| satellite | Any object in space that orbits something else. (E.g. The Moon is a satellite of Earth.) |
| celestial bodies | Objects in space that are roughly spheres |

The Solar System



FROM THE SUN OUTWARDS:

- Mercury
- Venus
- Earth
- Mars
- Jupiter
- Saturn
- Uranus
- Neptune

There are eight **planets** in our **solar system**.

The sun and the eight planets (including Earth) are spherical **celestial bodies** that move around the Sun in elliptical paths known as **orbits**.

The **planets** are held in their **orbits** by the **gravitational pull** of the Sun.

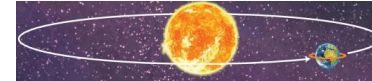
Copernicus developed the **heliocentric model** that the sun was at the centre of the **solar system**. However, the **ellipses-shaped orbit** was an idea that was discovered by Johannes **Kepler** in the 17th century.



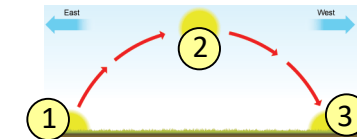
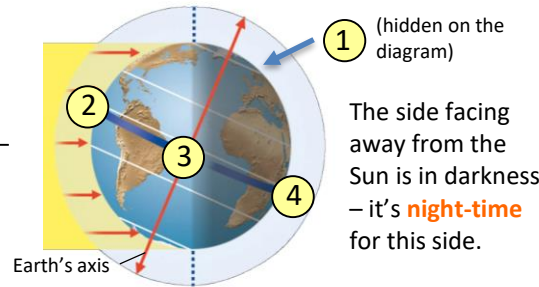
The Earth

The Earth moves in two ways:

- The Earth **orbits** the Sun. It takes 365 ¼ days to orbit the Sun.
- The Earth **rotates** anticlockwise (East to West) on its own **axis**. It completes a full **rotation** every **24 hours**.



The side facing the Sun is lit up – it's **daytime** for this side.



- ① Sunrise
- ② Midday
- ③ Sunset
- ④ Midnight

The Moon

The Moon **orbits** the Earth every **28 days** and is held in its **orbit** by the **gravitational pull** of the Earth.

Why does the Moon appear to change shape?

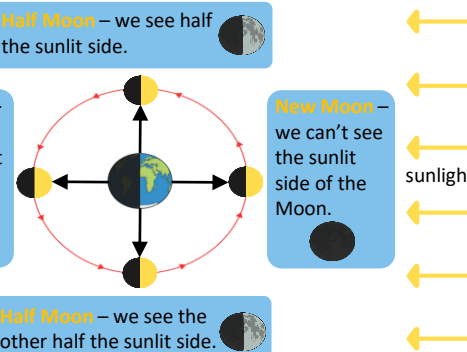
The Moon is bright because it **reflects** light from the Sun. From the Earth, we see different parts of the Moon being lit up as it moves around us. Therefore, it appears to us that the Moon is changing shape but it isn't really – it's always spherical.

Half Moon – we see half the sunlit side.

Full Moon – we can see all the sunlit side of the Moon.

New Moon – we can't see the sunlit side of the Moon.

Half Moon – we see the other half the sunlit side.



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