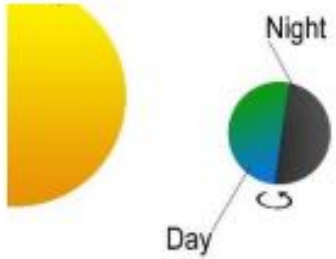
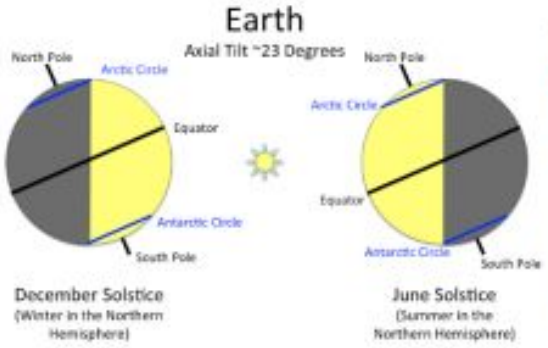
Key words

Term	Definition
Day	The time it takes for a planet to rotate once on it's axis. Different planets have different days. On Earth this is 24 hours.
moon	A satellite of the Earth that takes about 28 days to orbit.
Orbit	The pathway of an object around another.
year	The time taken for a planet to travel around the sun, on Earth this is 365.24 days.
star	Typically at the centre of a Solar System containing the majority of the mass. Nuclear fusion takes place here creating elements heavier than Helium.
comet	Balls of ice and dust that have a very elliptical orbit around the sun.
asteroid	Rocks that orbit the sun, many can be found in the asteroid belt between Mars and Jupiter.
Dwarf planet	Neither a planet or a natural satellite it is in orbit of the sun with gravity strong enough to cause it to be a sphere however is has not cleared it's neighbours of other materials around it's orbit.

Day, Night, Seasons and Years

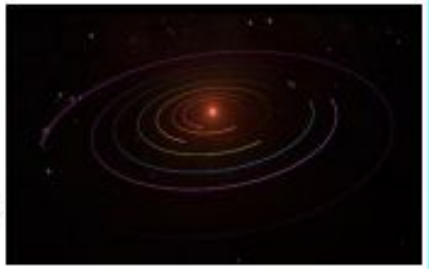
We have day and night because the Earth rotates. It spins on its axis, which is an imaginary line passing through the North and South Poles. The Earth spins slowly all the time, but we don't feel any movement because it turns smoothly and at the same speed.

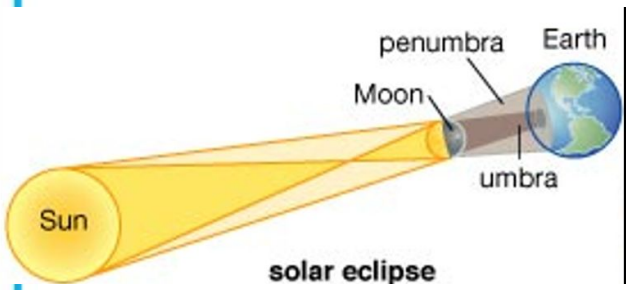




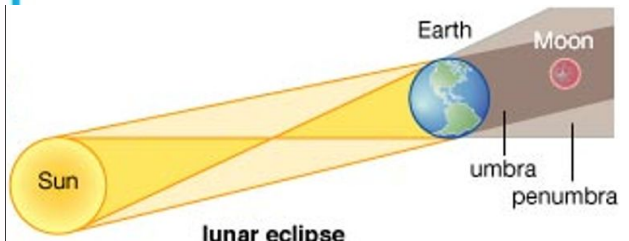
The Earth's axis is tilted by 23.5°. When the axis points towards the sun, it is summer for that hemisphere, this is because the radiation from the sun in more concentrated on the Northern hemisphere. When the earth's axis points away, winter can be expected for the opposite reason.

A year is the time it takes for a planet to orbit the sun. The closer a planet to the sun the shorter its route and the greater the gravitational pull, typically these planets have sorter years. On Earth a year is 365.24 days, every four years we have a leap year adding an extra day to the calendar to keep it in sync.





solar eclipse

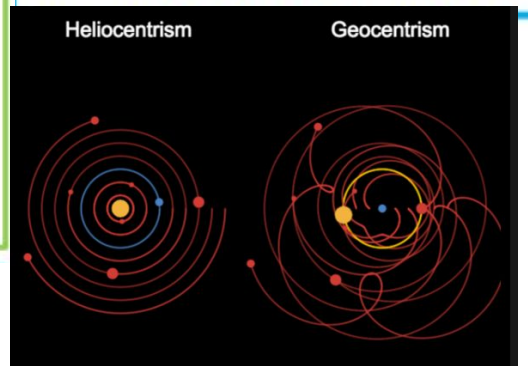


lunar eclipse

The Solar System and beyond

Our **Solar System** is one of billions in the galaxy and there are billions of **galaxies** in the **Universe**. Despite no evidence, scientists believe there is alien life out there!

The main component of the Solar System is the Sun. The Sun is our nearest star and is almost 1.4 million kilometres in diameter. It contains 99.86 percent of the System's known mass and its gravity keeps all 8 planets, dwarf planets (due to size/orbit) asteroids and comets in orbit.



Heliocentrism – the Sun is at the centre
Geocentrism – the Earth is at the centre

Satellites, orbits and gravity

A satellite is an object that has is in orbit. Natural satellites such as the Earth and the Moon or artificial satellites placed into orbit. There are many uses for artificial satellites such as TV, communication, monitoring the environment and spying on different countries.

Objects in orbit are said to always be 'falling' towards the earth due to gravity.

The Gravity of a planet or star depends on it's mass. The greater the mass the stronger the gravitational field. On Jupiter gravity is more than twice that of Earth, on the moon gravity is one fifth of that on Earth, imagine what it would be like to walk on each one!

Check your knowledge!

1. What is the difference between a solar and a lunar eclipse?
2. Define asteroid.
3. List the planets in our solar system in order from the sun
4. Describe what happens in Earth in one year
5. What is the different between a natural and an artificial satellite?