

## Knowledge organiser



**Y7 topic:** UNIVERSE

### **I have already learned:**

**In KS2:** Light is reflected from surfaces and we need light to see. The planets travel round the sun and the moon travels round the Earth. Day and night are caused by the rotation of the Earth relative to the sun. Objects fall to Earth due to gravity.

**Y7:** What the Earth is made of and how the Earth has changed over time.

### **This topic links to:**

**Y8:** Climate and Light

**KS4:** Space (Triple Science)

### **It is important to study about the universe because...**

It helps us to understand why it is warm or cold at different times of the year. It teaches us that scientists still have lots to find out about the Universe and are always looking for new evidence for their ideas.

### **Possible careers involving ideas about the universe are...**

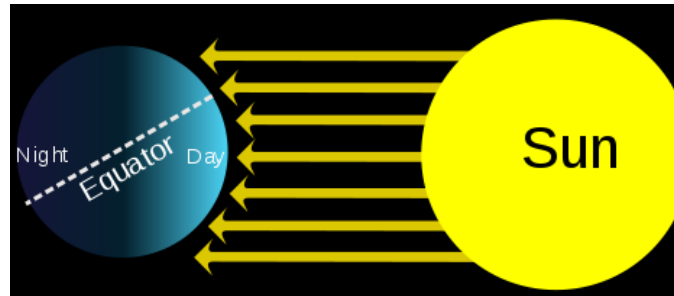
- Astronomer
- Astronaut
- Engineer
- Weather forecaster
- Writer

## KNOWLEDGE ORGANISER

**BIG IDEA:** UNIVERSE

**TOPIC:** UNIVERSE

Key Word	Definition
<b>axis</b>	A line from the North pole to the South pole, through the centre of the Earth
<b>galaxy</b>	A grouping of billions of stars and their solar systems
<b>hemisphere</b>	The North or South half of the Earth
<b>light year</b>	The distance that light travels in a year
<b>moon</b>	A natural satellite of the Earth
<b>orbit</b>	A closed path around an object
<b>planet</b>	A large ball of rock or gas that orbits a star
<b>solar system</b>	The sun, with all the planets and smaller objects orbiting it
<b>star</b>	Giant spheres of superhot gas, mainly hydrogen and helium
<b>telescope</b>	A piece of equipment that we can use to see things in space
<b>universe</b>	All of the galaxies



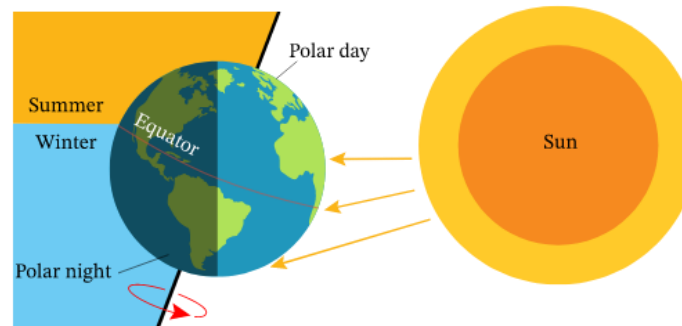
### Day and night

Day and night are caused by the Earth rotating on its axis. Whether it is day or night depends on where on the Earth's surface you are. Days are longer in summer in the UK because the Earth's axis is tilted towards the Sun.



### Objects in space

Our Solar System contains the Sun, the planets and their moons. The Sun is a star. The planets in order from nearest to the Sun working outwards are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune. A galaxy is a grouping of billions of star and their solar systems. The Universe means all of the galaxies.



### Seasons

In our summer, the Northern hemisphere is tilted towards the Sun. This means that the Sun's rays are less spread out so it is warmer. There are also more hours of daylight.

In the Southern hemisphere it would be winter because this part of the Earth is tilted away from the Sun. Its rays are more spread out so it is colder. There are fewer hours of daylight.