



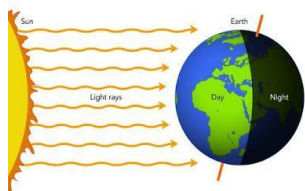
UKS2 Science Knowledge Organiser

Worlds of Wonder

Key Knowledge and Skills

The Earth

- The Earth, Sun and Moon are spherical (approximately).
- The Earth rotates on its axis, which stands on a 23.5° angle.
- The sun's rays hit the side of the Earth which faces the sun. This causes day and night. It takes the Earth 24 hours to make one complete rotation on its axis.



- The Earth orbits the Sun. One revolution takes 365 days (a year).

The Moon

- The Moon is a celestial body which orbits the Earth.
- One orbit takes approximately a month (almost 28 days).
- We only see the part of the Moon that is lit by the sun which is why it appears to be different shapes at different times of the month. There are 10 phases of the Moon.



- The moon is described as waxing as it gets larger from new moon to full moon. As the moon gets smaller from full moon to new moon it is described as waning.
- There is no life on the Moon because it has no atmosphere (no air or weather).

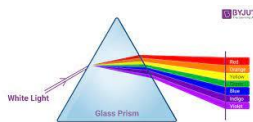
The Solar System

- The Sun is a hot ball of gas which is classified as a star. The Sun is placed at the centre of our solar system and makes life possible on Earth.
- Planets are celestial objects that orbit a star like our solar system's Sun.
- Our solar system is currently believed to include eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. In 2006 Pluto was reclassified as a 'dwarf planet'.



Light

- Light travels very quickly, in waves and in straight lines.
- Light is a form of energy which allows us to see things. We can see things because light is reflected.
- Mirrors reflect light and they help us to see objects.
- White light is made up of a spectrum of colours.



- Shadows are formed when light is blocked. The shadow cast is that same shape as the object that cast it.
- The closer an object is to a light source, the bigger the shadow.

Skills

- Taking accurate measurements, using a range of scientific equipment, checking with repeat readings.

Key Vocabulary

Word	Definition
light	the natural agent that stimulates sight and makes things visible.
light source	something that provides light, whether it be a natural or artificial source of light (e.g. the sun, a torch).
moon	a natural object which orbits a planet and reflects light.
opaque	an object which does not allow light to pass through (e.g. wood).
orbit	a repeating path which one object takes around another.
planet	a celestial body which orbits a star.
reflection	the throwing back by a body or surface of light, heat or sound without absorbing it.
refraction	the bending of light as it passes from one substance to another with the bending caused by the difference in density between two substances.
revolve	to move in a circle orbit.
rotate	to turn around on one point, also known as an axis.
satellite	a celestial body or artificial object orbiting a planet or moon.
shadow	a dark area or shape produced by an opaque object.
solar system	planets and their moons which orbit the Sun.
star	a large glowing ball of gas.
translucent	an object which allows some light to pass through it. It may be possible to see some unclear images through the object (tissue paper).
transparent	an object which allows light to pass through it so that objects behind it can be easily seen (glass).

Focus Scientists

Aristotle

Aristotle was a very famous philosopher and scientist (384 B.C. - 322 B.C.). He declared that the Earth was a sphere based on observations he made.



Nicolas Copernicus

Nicolas Copernicus was a Polish astronomer (1473 - 1543). He proposed that the Earth and other planets revolve around the Sun - The Heliocentric Theory.



Galileo

Galileo was a professor of Mathematics (1564 - 1642). He invented the optical telescope and became the first person to observe celestial objects.



Major Tim Peake

Tim Peake is the first British person to go into space and the first British astronaut to walk in space. In 2016, he spent 6 months on the ISS.



