Science knowledge organiser – Space - Year 5

Important Vocabulary for Space

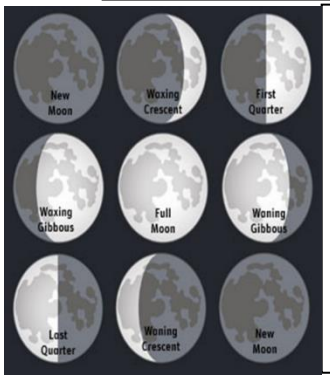
- **Asteroid** – A small rocky body orbiting the sun
- **Axis** – An imaginary line about which a body rotates
- **Celestial body** – An object positioned in or relating to the sky, or outer space.
- **Day** – A twenty-four-hour period, from one midnight to the next, corresponding to a rotation of the earth on its axis
- **Moon** – A natural satellite of any planet
- **Night** – The period from sunset to sunrise in each twenty-four hours
- **Orbit** – The regularly repeated oval course of a celestial object around a star or planet
- **Planet** – A celestial body moving in orbit round a star
- **Rotation** – Moving in a circle around an axis or centre
- **Solar system** – The collection of eight planets and their moons in orbit round the sun
- **Star** – A fixed luminous point in the night sky which is a large, burning ball of gas.

Important Scientists

Galileo -For many years scientists believed that the solar system revolved around the Earth. Galileo was the first scientist to prove that this wasn't actually correct, in fact the solar system revolved around the sun. He also invented an improved telescope so that he could gaze far into space. He was the first to see Jupiter's moons and then realised that our moon was covered full of craters.

Copernicus - Copernicus was an astronomer who lived in the early 1500s. He came up with the idea that the Sun was the centre of the universe. This was very different from the current belief that the Earth was the centre.

Eratosthenes -Eratosthenes was an ancient Greek astronomer, geographer, and mathematician. He lived from 276 to 194 B.C. Eratosthenes is most famous for making the first accurate measurement of the circumference of the Earth.



Order of the planets

Mercury – My
Venus – Very
Earth – Easy
Mars – Method
Jupiter – Just
Saturn – Speeds
Uranus – Up
Neptune – Naming
Pluto - Planets

The Solar Eclipse

A solar eclipse is when the moon passes between the sun and the earth so the moon blocks the sunlight.

The Sun is incredibly bright. It is not safe to look directly at the sun, even when wearing sunglasses!

The Phases of the Moon

The Moon takes **28 days** to orbit the Earth. We call this the **lunar month**. The Moon is not a light source and simply **reflects** the light from the Sun. The Moon also does not change shape, instead we see different amounts of the Moon's surface depending on its position in relation to the Earth and the Sun. These changes in the amount we can see are called the **phases of the Moon**.

During each lunar month, the Moon starts off unilluminated (**New Moon**). As more of the Moon becomes illuminated (lit up), it becomes a **Full Moon** and then back to unilluminated again. This process is continuous.

Waxing occurs after New Moon and before a Full Moon as more of the Moon illuminates.

Waning occurs after a Full Moon and before a New Moon as less of the Moon is illuminated.

Facts about the Planets

Mercury - Mercury is the closest planet to the Sun and due to its proximity it is not easily seen except during twilight.
Venus - Venus does not have any moons or rings. Venus is nearly as big as the Earth with a diameter of 12,104 km.
Earth - Earth is the only planet not named after a god.
Mars - Mars is home to the tallest mountain in the solar system. On Mars the Sun appears about half the size as it does on Earth. One day Mars will have a ring.
Jupiter - Jupiter has the shortest day of all the planets. Jupiter orbits the Sun once every 11.8 Earth years.
Saturn - Saturn is made mostly of hydrogen. Saturn has the most extensive rings in the solar system.
Uranus - Uranus was officially discovered by Sir William Herschel in 1781.
Neptune - Neptune has 14 moons. Neptune spins on its axis very rapidly.
Pluto - Discovered in 1930, Pluto is the second closest dwarf planet to the Sun and was at one point classified as the ninth planet.