Science • Earth and Space



Crucial Knowledge

- the universe comprises all matter and space in existence
- a celestial body is a large object in the universe
- a star is an exceptionally hot ball of gas, originally [] made from hydrogen and helium
- the Sun is a star
- a planet (e.g Earth) is defined as a spherical celestial body that orbits a star and that has cleared the neighbourhood of its orbit of other objects, some of which crash into the planet and others that become moons of that planet
- The Sun and the objects that orbit it are collectively known as our Solar System
- there are eight major planets in our solar system: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune
- a satellite orbits a planet and that moons are natural satellites



Key Vocabulary

Planet: A large object, round or nearly round, that

orbits a star.

Satellite: Any object or body in space that orbits

something else e.g. the moon is a satellite

spherical Astronomical objects shaped like spheres.

bodies:

Star: A giant ball of gas held together by its own

gravity.

Eclipse: is when one object in space blocks another **I**

from view. E.g. during a solar eclipse the

Universe: is everything we can touch, feel, sense,

measure or detect. It includes living things, planets, stars, galaxies, dust clouds, light,

and even time.

Axis: is an invisible line around which an object

rotates, or spins.

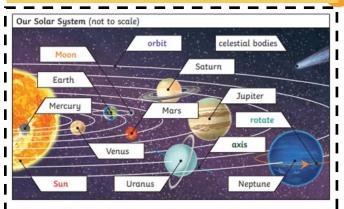
celestial a natural object that exists outside the

body: Earth's atmosphere

Lunar: something that is related to the moon.

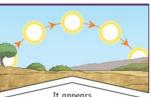
Solar: relating to the sun

Diagrams / Images

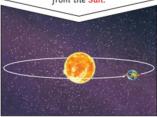




The Moon orbits Earth in an ovalshaped path while spinning on its axis. At various times in a month, the Moon appears to be different shapes. This is because as the round Earth, the Sun lights up different



to us that the Sun moves across the sky during the day but the Sun does not move at all. It seems to us that the Sun moves because of the Earth rotates (spins) on its axis. It does a full rotation once in every 24 hours. At the same time that Earth is rotating, it is also orbiting (revolving) around the Sun. It takes a little more than 365 days to orbit the Sun. Daytime occurs when the side of Earth is facing towards the Sun. Night occurs when the side of Earth is facing away from the Sun.





Nicolaus Copernicus (1473-1543) was a mathematician and astronomer who formulated a model of the universe with the Sun rather than Earth at its center. This was a major event in the history of science.





Mary Jackson (1921-2005) was a mathematician and engineer who became the first African American female engineer at NASA, helping the USA in the Space Race.

Forces and Motion (Y5)