Stargazers

Imaginative Learning project for Year 5/6, 2025

Journey through space, the final frontier. Navigate beyond the sun, the magnificent blazing star at the centre of our solar system. Investigate the eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. Take a look at the moon, a celestial body that orbits Earth. Programme a rover to transverse a lunar landscape and work scientifically to investigate gravity and what happens when there is none. Compare the times of day at different places on the Earth and use GPS satellite navigation systems to track hidden treasure. Get in a spin making simple models of the solar system and listen to the haunting sound of space themed songs. Exploring space is probably the greatest adventure that humankind has every undertaken.

Science Focus

- The Solar System is made up of a collection of planets, their moons and smaller objects such as dwarf planets, asteroids, meteoroids and comets that orbit the Sun
- There are eight planets in the Solar System
- The four planets that are closest to the Sun are called terrestrial planets and are made up almost entirely of rock. These are Mercury, Venus, Earth and Mars
- The four planets furthest away from the Sun are called Jovian planets and are mostly made up of gases eg hydrogen and helium. These are Jupiter, Saturn, Uranus and Neptune
- Night and day occurs because the Earth rotates on its axis. As the Earth rotates, the part of the planet that faces the Sun experiences light and daytime. The part of the Earth that faces away experiences darkness and night-time
- When viewed from above the North Pole, the Earth rotates anti-clockwise, which is why the Sun always rises in the east and sets in the west
- Isaac Newton (1643-1727) formed his theory of gravity when he watched an apple fall from a tree. A newton (N) is a unit of measurement that is used to measure the pull of gravity

Key Vocabulary

Astronomer: a person who makes observations about and studies the stars, planets and space

Comet: a small, frozen mass of dust and gas orbiting the Sun

Crater: a huge hole formed by the impact of a meteorite or other space objects

Gravity: the force by which an object with a large mass, such as a planet, pulls objects toward its centre. The force of gravity keeps all of the planets in the Solar System in orbit around the Sun

Jovian Planet: Planets made primarily of gas. Also known as gas and/or ice giants. Jovian planets in our Solar System include Jupiter, Saturn, Uranus and Neptune

Orrery: a model of the Solar System that shows the position and movement of the planets

Planetarium: a purpose built, domed building or tent in which images of stars and planets are projected for educational purposes

Homework Projects

- Use a range of sources to find out about the planets in our Solar System, such as their diameter, position from the Sun, number of moons, day length, year length and type for example gaseous or terrestrial. Record your results in a table.
- Find out about a significant space scientist and write a biography or fact file about their life and work. Examples include Claudius Ptolemy, Ibn al-Haytham, Edwin Hubble, Stephen Hawking or Mae Carol Jemison
- Keep a moon diary over the course of a lunar month. Draw the shape of the Moon each night, finding out and recording the correct term for each lunar phase
- Find out about the following types of moon: blood moon, supermoon, blue moon and harvest moon. Why have they been called this? When do they happen? How often can you see a moon like this?