



Year five science

Earth in Space



Key facts about the earth's movement	<ul style="list-style-type: none"> It takes a day (24 hours) for the earth to spin around once. It takes one year, (365 ¼ days) for the earth to orbit the sun. Therefore the earth moves in two ways.
How are the earth, sun and moon similar and different?	<ul style="list-style-type: none"> The sun, earth and moon are all roughly spherical in shape. They are all part of the solar system. The sun is a star and the earth is a planet. The moon is a satellite orbiting the earth.
Key facts about the moon:	<ul style="list-style-type: none"> The Moon orbits the Earth roughly every 28 days. As the Moon orbits the Earth, different parts of it are lit up by the Sun, which leads to the different shapes that we see, called phases of the Moon. The moon does not give out its own light but it reflects light from the sun (A solar eclipse occurs when the Moon is between the Sun and the Earth, casting a shadow on the Earth. A lunar eclipse occurs when the Earth is between the Sun and the Moon, casting a shadow on the Moon)

Katherine Johnson

Katherine Johnson was a pioneering scientist and mathematician who worked for NASA (the National Aeronautics and Space Administration) in the USA. She was one of the first black women to attend an integrated university in her state, West Virginia, having been handpicked due to her ability. Her calculations and work were critical to the success of the first and subsequent manned space flights. Her story is told in the brilliant film 'Hidden Figures'.



Key vocabulary

axis	An imaginary line an object turns around. The earth's axis runs from the north pole to the south pole.
orbit	An orbit is the path that an object takes in space when it travels around a star, a planet, or a moon
spin	an object whirling around its own axis.
satellite	Satellites are objects that orbit a planet, and moons are natural satellites. (Artificial satellites are satellites that people have put into space to orbit the Earth, usually for the purposes of telecommunication.)
phases	The phases of the Moon are the different ways the Moon looks from Earth over 28 days
sphere	A sphere is a three-dimensional object that is round in shape; like a ball
shadow	When an opaque object blocks the light, a shadow is created
solar system	The solar system consists of the Sun and everything that orbits, or travels around it
astronomy	Astronomers study the universe and everything in it, including planets, stars, galaxies, comets, and black holes.
lunar	Lunar means something that is related to the moon
constellation	A constellation is a group of stars
heliocentric	Heliocentrism is the idea that the Earth and other planets orbit around the Sun

The Sun is our nearest star. The Sun provides us with light and heat but you must never look directly at it. Without the Sun there would be no daylight, and our planet would simply be a dark, frozen world, with no oceans of water and no life.

The sun does not move across the sky

The sun appears to move across the sky during the day, but **it's not the sun that is actually moving; it's the earth!**

The Sun is our nearest star. Without the Sun there would be no daylight. The Sun looks like it moves across the sky in the daytime and appears to disappear at night. This is because the Earth is spinning. The Earth spins on an imaginary axis. As the Earth spins, part of the Earth is facing the Sun, it experiences day-time. When a part of the Earth is facing away from the Sun, it experiences night-time.