

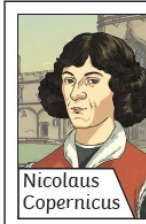
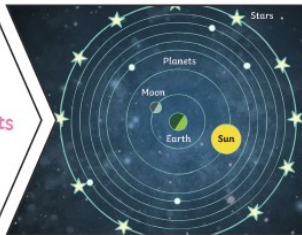
**Background Information**

The Space Race was a competition of space exploration between the Soviet Union (now Russia) and the United States, which lasted from 1955 to 1969.

The Space Race began after the Soviet launch of *Sputnik 1* on 4 October 1957. The term "Space Race" started as a comparison to the arms race. The Space Race became an important part of the rivalry between the United States and the Soviet Union during the Cold War. Space technology became an extra important area in this rivalry, because of possible military uses.

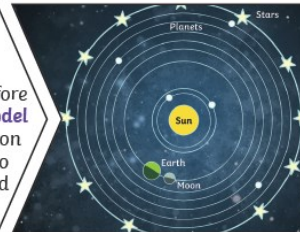
**Geocentric model**

Years ago people believed that planets moved around the Earth.



Nicolaus Copernicus

The work and ideas of many **astronomers** (such as Copernicus and Kepler) combined over many years before the idea of the **heliocentric model** was developed. Galileo's work on gravity allowed **astronomers** to understand how **planets** stayed in **orbit**.



**Key Vocabulary:**

- Soviet - a citizen of the former Soviet Union, now Russia.
- Satellite - an artificial body placed in orbit round the earth or moon or another planet in order to collect information or for communication.
- Apollo 11 - the first manned mission of the United States Apollo program, which had as its ultimate goal a manned lunar landing.
- NASA - National Aeronautics and Space Administration. United States government agency responsible for the civilian space program as well as aeronautics and aerospace research
- Sputnik - First artificial Earth satellite, it was launched by Moscow in 1957 and sparked U.S. fears of Soviet dominance in technology and outer space.
- Rivalry - competition for the same objective or for superiority in the same field.

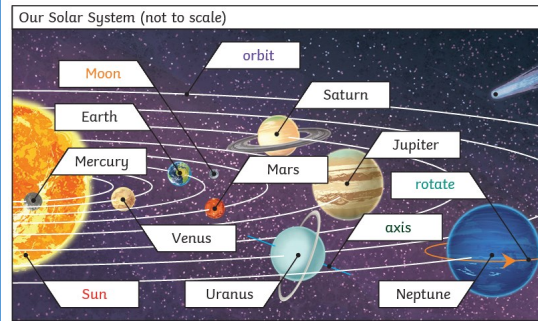
**Space Travel timeline**

1947	First animals are sent to space- fruit flies sent on some corn.	
1949	The first monkey is sent to space.	
1955	The Space Race begins between Russia and America.	
1957	The first animal goes around the Earth in space. It is a dog named Laika.	
1961	First man in space: Yuri Gagarin.	
1963	First woman in space: Valentina Tereshkova.	
1969	Moon Landing. Neil Armstrong and Buzz Aldrin become the first people to walk on the moon. The first words they said were "The Eagle has landed."	
1991	Helen Sharman becomes the first British astronaut in space.	
2001	First space tourist.	
2015	Scientists find evidence of water on Mars.	
2015-2016	Tim Peake becomes the first British astronaut to visit the International Space Station.	 

**Key Vocabulary**

Asteroid	A rock that orbits the sun in a belt between Mars and Jupiter.
Axis	An imaginary line through the middle of something (i.e. a planet).
Comet	A bright object with a long tail that travels around the sun.
Earth	A planet which orbits the sun in 365 days.
Galaxy	An extremely large group of stars and planets. Our galaxy is called the Milky Way.
Moon	A celestial body that orbits around a planet.
Orbit	To move in a regular, repeating curved path around another object.
Planet	A celestial body which moves in orbit around the sun.
Rotate	To spin. E.g. Earth rotates on its own axis.
Shadow	A dark shape on a surface that is made when something blocks the light.
Solar System	The solar system is made up of the sun and everything that orbits around it, including planets, moons asteroids, comets and meteoroids. There are 8 planets in our solar system: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.
Sphere	A round solid shape like a ball.
Star	A large ball of burning gas in space with a fixed point.
Sun	A large star which is the centre of our solar system.
Universe	The hole of space and everything in it.

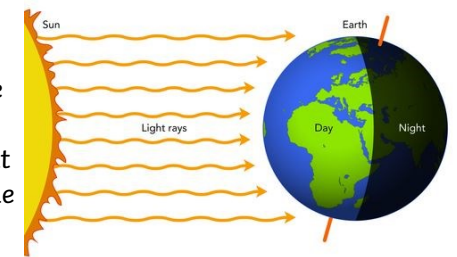
**Key Knowledge**



Mercury, Venus, Earth and Mars are rocky planets. They are mostly made up of metal and rock. Jupiter, Saturn, Uranus and Neptune are mostly made up of gases (helium and hydrogen) although they do have cores made up of rock and metal. At the centre of our solar system is the Sun. The gases that make up the sun are Hydrogen and Helium. Although the sun appears yellow, it is actually more Orangey Red due to its extreme heat. The temperature of the sun is nearly 10,000 degrees, and the temperature at the sun's core is around about 27 million degrees.

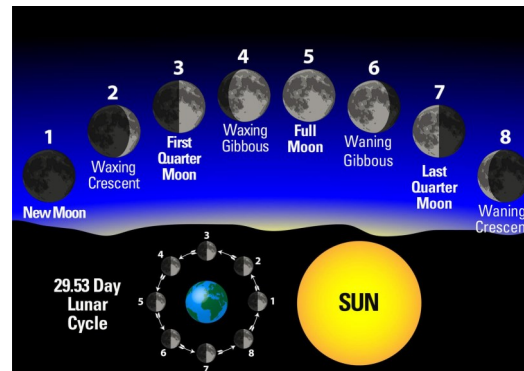
**Day and Night**

Earth rotates (spins) on its axis and makes a full rotation once in every 24 hours (a day). At the same time that Earth is rotating, it is also orbiting 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. Different parts of the Earth experience daylight at different times and this is also the reason we have different time zones.



**Phases of the Moon**

The Moon orbits Earth in an oval-shaped path while spinning on its axis. At various times in a month, the Moon appears to be different shapes because, as it rotates around Earth, the Sun lights up different parts.



**Geocentric and Heliocentric Models**



**Geocentric model**  
Years ago people believed that Earth was the centre of the solar system and the planets moved around the Earth.

**Heliocentric model**  
The years of work by many astronomers, such as Copernicus and Kepler, led to the idea that the Sun is at the centre of the solar system.



Galileo's work on gravity allowed astronomers to understand how planets stayed in orbit.