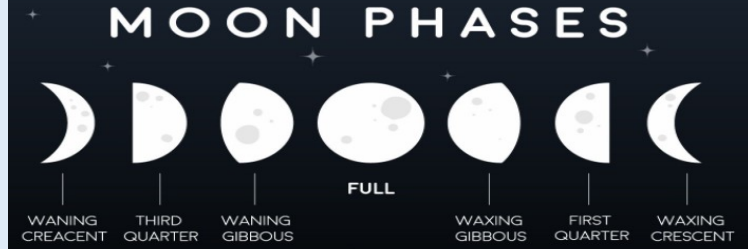


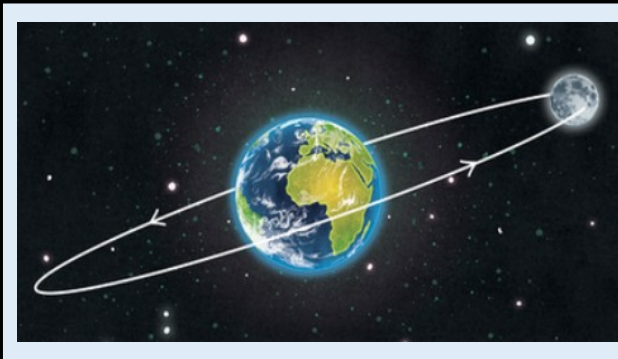


## Earth and Space

## Key Vocabulary



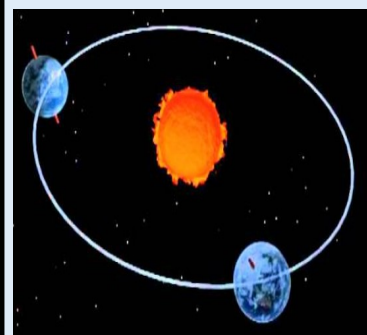
Daytime occurs when the section of Earth is facing towards the **Sun**. Night-time occurs when the section of Earth is facing away from the **Sun**.



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. This is because as the **Moon rotates** round Earth so the sun's light reflects from part of its surface.

The Moon has gravity of its own, which pulls the oceans (and us) towards it. The Moon's gravitational pull on us is much weaker than Earth's, we don't really notice it, but we can see the Moon's effect on the oceans.

Earth **rotates** on its **axis**. It does a full rotation once in every 23 hours and 56 minutes. At the same time that Earth is rotating, it is also orbiting around the Sun. It takes just over 365 days for Earth to orbit the Sun.



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). Pluto used to be considered a **planet** but was reclassified as a dwarf **planet** in 2006.



Prior to the 1600's, the common belief was that the planets and the Sun moved around the Earth (**Geocentric model**). The work and ideas of many astronomers in the idea that the Earth and other **planets** actually revolve around the **Sun** making the **Sun** the centre of our **solar system** (**Heliocentric model**), not Earth.

<b>Sun</b>	a huge star that Earth and the other planets in our solar system orbit around
<b>star</b>	a giant sphere of gas held together by its own gravity
<b>moon</b>	a natural satellite which orbits Earth or other planets
<b>planet</b>	a large object, round or nearly round, that orbits a star
<b>solar system</b>	consists of our Sun and everything bound to it by gravity — the planets dozens of moons and millions of asteroids, comets and meteors
<b>sphere</b>	a round 3D shape - like a ball all points on the surface are the same distance from the centre
<b>satellite</b>	any object or body in space that orbits something else, the Moon is a satellite of Earth
<b>orbit</b>	a regular, repeating path that one object in space takes around another one
<b>rotate</b>	to circle around a centre point e.g. Earth rotates on its own axis
<b>axis</b>	an imaginary line that an object rotates around e.g. Earth's axis (imaginary line) runs from the North Pole to the South Pole
<b>Geocentric model</b>	a belief people used to have that other planets and the Sun orbited around Earth
<b>Heliocentric model</b>	the structure of the Solar System where the planets orbit around the Sun



## Key Vocabulary

- society** the members of a community, or group, considered together
- stereotype** an idea or belief many people have about a thing or group, which may be untrue or partly untrue
- attitude** a way of feeling or thinking about someone or something
- technology** the collection of tools, including machinery, modifications, arrangements and procedures, used by humans
- economy** the way in which goods are made, sold and used in a country
- reliability** capable of being trusted or reliable upon



# Year 5 Mission to the Moon

## 1950s

The 1950s saw the beginnings of commercial television in Britain. Electrical goods such as toasters, electric fires, cookers, washing machines and vacuum cleaners were introduced. However, for some of these goods, it was only the wealthy that could afford them. Most families still washed their clothes by hand.



In 1954, rationing was finally ended. It was imposed during WWII to make sure that everyone had a fair amount of food and clothing.

## 1960s

During the sixties, London became the fashion capital of the world. New colours, patterns and fabrics were being used to make clothes young, fresh and exciting.



In 1965, the Race Relations Act attempted to stop racial discrimination in public places. People around the world were trying to make sure that all people had equal rights.

## 1969

Neil Armstrong was the first human to walk on the Moon during the Apollo 11 mission on 20th July. He completed the mission alongside co-pilots Edwin E. (Buzz) Aldrin and Michael Collins.



## 1970s

In the 1970s, Britain faced lots of economic problems. The Government tried to reduce people's wages, which led to numerous strikes. By the end of the 1970s, this period of time of was known as the 'winter of discontent.'

Despite these economic problems, there were positive changes too. Women campaigned for equal pay for doing the same job as men. Advances in women's rights became evident when in 1979 Margaret Thatcher became the UK's first female Prime Minister.



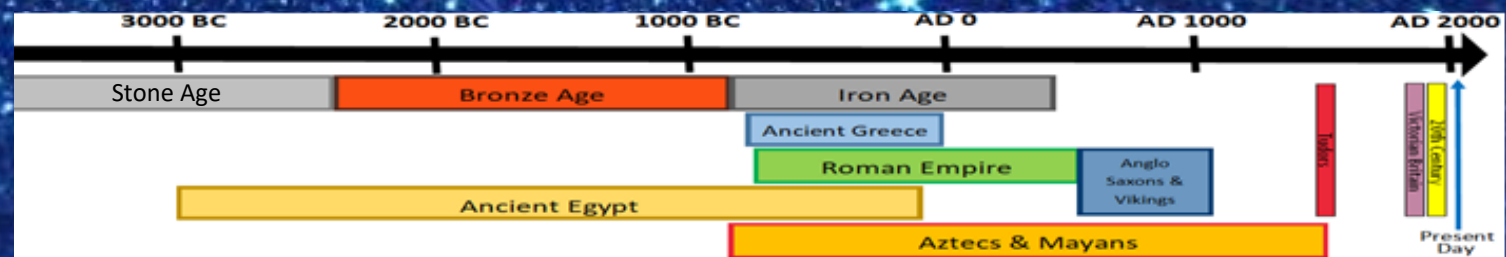
## 1980s

One of the biggest characteristics of the 1980s were the technological advances. This decade was the period when personal computers became popular. Microsoft Windows was launched in 1985 and in the same year Nintendo launched its first entertainment system.



## Katharine Johnson (1918—2020)

Katherine Johnson loved math. Early in her career, she was called a 'computer.' Katherine studied how to use geometry for space travel. She figured out the paths for the spacecraft to orbit Earth and to land on the Moon. Later, her math helped send astronauts to the Moon and back.







### What is Gravity?

The **force** that pulls things to the centre of Earth (and other planets) is called **gravity**. Gravity also holds Earth and the other planets in their orbits around the Sun. The **force** of **gravity** exists on the Moon but it is not as strong as it is on Earth. This is because the Moon is much smaller than our planet. Objects with more **mass** have more **gravity**.

We are pulled down towards the ground because of **gravity**. **Gravitational force** pulls in the direction towards the centre of any object.

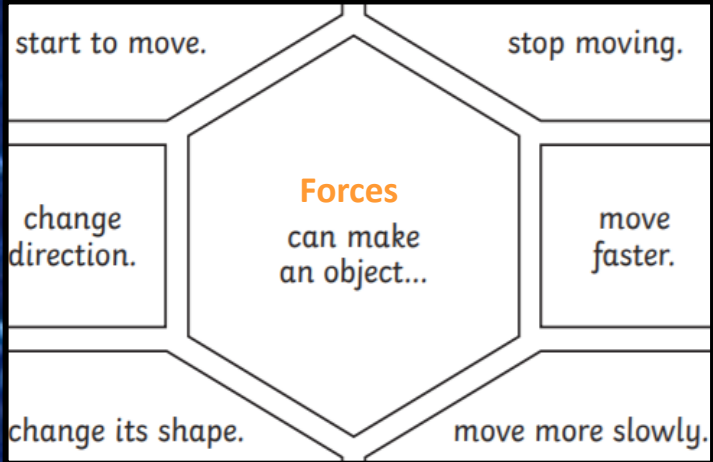
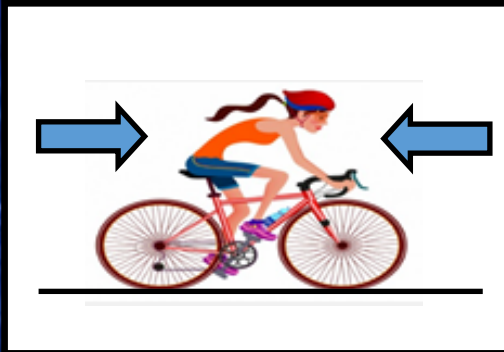
Sir Isaac Newton, an English mathematician and physicist, who lived from 1642-1727, is famously thought to have developed his theory of **gravity** when he saw an apple fall to the ground from an apple tree.



Mass is how much matter is inside an object. It is measured in kilograms (kg).

Weight is how strongly gravity is pulling an object down. It is measured in newtons (N).

### Forces



### Resistance

**Friction** is a force that acts between two surfaces or objects which are moving, or trying to move, across each other.

**Air resistance** is a type of friction. It is caused when air pushes against any moving object.

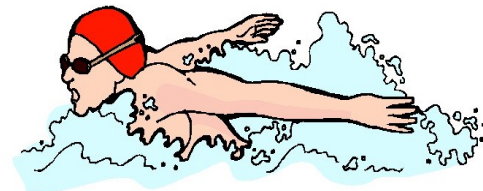
It is helpful when it stops a skydiver hitting the ground at high speed.



**Buoyancy** is an upward force that a liquid applies to an object.

**Water resistance** is a type of friction. It is caused when water pushes against any moving object.

It is unhelpful when it slows down a swimmer in a race.



When objects are **streamlined**, they are shaped to minimise the effects of air or water resistance.