



**Fairfields**  
PRIMARY SCHOOL

My learning journey through:



Journey through space, the final frontier...

Navigate beyond the Sun: the magnificent, blazing star at the centre of our Solar System!

Let's blast off!

Year 5 - Autumn Term 2

## Key Vocabulary

### Glossary

<b>asteroid</b>	A rock that orbits the Sun.
<b>astronomer</b>	A person who makes observations about and studies space.
<b>atmosphere</b>	A mixture of gases that surround a planet.
<b>axis</b>	The imaginary line on which a planet rotates.
<b>comet</b>	A frozen mass of dust and gas orbiting the Sun.
<b>crater</b>	A large hole made when an object hits a surface with force.
<b>dwarf planet</b>	An object orbiting the Sun that is larger than a comet, meteoroid or asteroid but not as big as a planet.
<b>lunar</b>	Relating to the Moon.
<b>meteoroid</b>	A rock that orbits the Sun, which is smaller than an asteroid.
<b>orbit</b>	A curved, invisible path that a planet, asteroid, meteoroid or comet takes as it goes around something else such as the Sun.
<b>planet</b>	An almost spherical object made of rock, metal and gas orbiting a star.
<b>rotate</b>	To turn around a fixed point.
<b>satellite</b>	A man-made machine or a natural object that orbits a body in space and sends signals to and from Earth.
<b>star</b>	A huge, bright ball of burning gas that is held together by gravity.
<b>universe</b>	All of space and everything in it including stars, planets and galaxies.

### The Moon

The Moon is a natural satellite that is 384,400km away from Earth. It orbits the Earth every 27 days. The surface of the Moon is covered with craters. There is no atmosphere or life on the Moon. The Moon reflects the light of the Sun and looks different every day, depending on how much of the reflected surface is seen from Earth. These differences are known as phases of the Moon.



Phases of the Moon

## Knowledge that will help me on my journey:

### The Solar System

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: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.

The four planets 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, such as hydrogen and helium. These are Jupiter, Saturn, Uranus and Neptune.

### Night and day

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 from the Sun 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.

### The Sun

The Sun is a star at the centre of the Solar System. The diameter of the Sun is about 1.4 million km. Its surface temperature is about 5500°C and its core temperature is about 15.5 million°C. The Sun is important because it provides light, heat and energy so that plants and animals, including humans, can live on Earth.

### Gravity

Gravity is a force that pulls objects toward each other. On Earth, gravity pulls all objects towards its centre and keeps everything on the ground. Gravity also keeps the Moon in orbit around the Earth and the planets in orbit around the Sun.

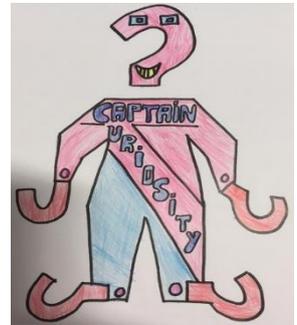
### Isaac Newton (1643–1727)

Isaac Newton 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.

### Galileo Galilei (1564–1642)

Galileo Galilei was an Italian scientist and inventor who proved that the Earth orbits the Sun. In 1609, Galileo invented a telescope that he used to observe sunspots that appeared to move across the Sun's surface. He also observed the craters and mountains on the Moon and discovered the four moons orbiting Jupiter.

What I'd like to learn...



The end of our journey.....

Science Skills	Date
<p>- The Solar System is made up of the Sun and everything that orbits around it. There are eight planets in our Solar System: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. Earth orbits around the Sun and a year (365 days) is the length of time it takes for Earth to complete a full orbit.</p>	
<p>- The Moon orbits Earth, completing a full orbit every month (28 days).</p>	
<p>- The Sun, Earth, Moon and other planets and stars are roughly spherical. All planets are spherical because their mass is so large that they have their own force of gravity. This force of gravity pulls all of a planet's material towards its center, which compresses it into the most compact shape - a sphere.</p>	
<p>- As Earth orbits the Sun, it also spins on its axis. It takes Earth a day (24 hours) to complete a full spin. During the day, the Sun appears to move through the sky. However, this is due to the Earth rotating and not the Sun moving. Earth rotates to the east or, if viewed from above the North Pole, it rotates anti-clockwise, which means the Sun rises in the east and sets in the west. As Earth rotates, different parts of it face the Sun, which brings what we call daytime. The part facing away is in shadow, which is night time.</p>	
Art and Design Skills	Date
<p>Some artists, such as Kurt Schwitters, use text or photographic images to add interest or meaning to a print.</p>	
Design Technology Skills	Date
<p>Materials should be cut and combined with precision, e.g pieces of fabric could be cut with sharp scissors and sewn together using a variety of stitching techniques.</p>	
<p>Pneumatic systems use energy that is stored in compressed air to do work Hydraulic systems work in a similar way, but instead of air the system is filled with liquid. - <i>make your rocket fly, Star Gazers.</i></p>	
<p>Use electrical circuits of increasing complexity in their models or products, showing understanding of control.</p>	
Computing Skills	Date
<p>Sequences of instructions (algorithms) that contain IF, THEN and OTHERWISE statements are called selections. The computer will complete operations based on whether the conditions of these selections are met or not.</p>	
<p>Using prior knowledge and experience of computing skills can be applied to unfamiliar hardware to solve a problem successfully.</p>	
<p>Sensors can be combined to control a physical system, such as using motion, light and sound sensors to control a road network of traffic lights and level crossings.</p>	
<p>Creating, selecting and combining a range of texts, images, sound clips and videos for given purposes could include creating a web page, slide show presentation, short film or an animation.</p>	
History Skills	Date
<p>Aspects of history are significant because they had an impact on a vast number of people, are remembered and commemorated or influence the way we live today - <i>Space Race and Moon landing.</i></p>	
<p>Beliefs can prompt an individual to take action, such as to fight for change, fight wars, oppress or free individuals or groups of people, create temples and tombs and protest against injustice - <i>Galileo.</i></p>	
<p>Sources of historical information can have varying degrees of accuracy, depending on who wrote them, when they were written and the perspective of the writer - <i>Moon landing sources.</i></p>	
Geography Skills	Date
<p>The Prime (or Greenwich) Meridian is an imaginary line that divides the Earth into eastern and western hemispheres. The time at Greenwich is called Greenwich Mean Time (GMT). Each time zone that is 15 degrees to the west of Greenwich is another hour earlier than GMT. Each time zone 15 degrees to the east is another hour later.</p>	

