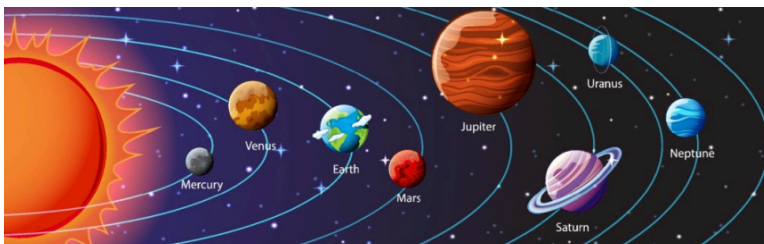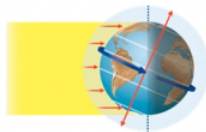## What should I already know?

- I know the difference between night and day. (EYFS)

- I know the changes in weather patterns and seasons (Year 1)

- I know that there are different time zones based on the hours of daylight. (Geography – Year 3)

What will I learn?

- I will learn that the sun is the centre of solar system (heliocentric).

- I will learn that people used to this that the Earth was the centre of our solar system (geocentric).

- I will learn that there are eight planets in our solar system and they are spherical in shape.

- I will learn that when the Earth spins on its axis, one side faces the sun and experiences daylight and the other side faces away and experiences night.

Vocabulary

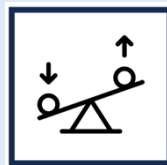|	
Earth and Space	Earth is our planet and space is beyond our planet.
Planet	A celestial body which orbits a star
Solar system	The collection of eight planets and their moons in orbit around the sun.
Rotation	The action of rotating around an axis or centre.
Axis	An imaginary line about which a something rotates.
Orbit	A course that a celestial object repeats around a star or planet.
Geocentric	The incorrect belief that the earth is at the centre of the solar system.
Heliocentric	The correct belief that the sun is the centre of the solar system.
Moon	A natural satellite of any planet
Sun	A huge star around which planets orbit.

What is our enquiry type?

Observing Changes Over Time	Pattern Seeking	Identifying, Grouping & Classifying	Fair Testing	Research

What is moving and how do we know?

Working scientifically skills.

How will I be a scientist?

PLAN		DO		REVIEW	
Ask questions	I will generate my own questions about space and the Earth and use textbooks and the internet to research and find answers.	Record	I will record data found from my research when comparing planets. I will evaluate this to find patterns.	Evaluate	I will research arguments around the shape of the earth and the model of the universe. I will find scientific evidence that supports or refutes these claims and draw conclusions.

What should I already know?

- Thing move differently on different surfaces. (Year 3)

- Forces can be pushes or pulls. (Year 3)

- Some forces need contact between two objects but some forces (magnets) can act at a distance. (Year 3)

What will I learn?

- The effects of different forces, such as: gravity, air resistance, water resistance and friction.

- Unsupported objects fall towards the Earth because of the force of gravity – this was discovered by Sir Isaac Newton.

- Friction occurs when objects move through water or air. Friction works in the opposite direction that the object is trying to move – friction always slows something down.

- Air resistance and water resistance are forces against motion caused by objects having to move air and water out of their way.

- Pulleys, levers and gears change the force required and can make it easier to move objects.

Vocabulary

Force	Forces make things move and stop moving (they can be a push or pull).
Gravity	The force that attracts a body towards the centre of the earth, similar to a magnet.
Friction	The resistance that one object encounters when moving over another.
Air Resistance	A force that is caused by air going in the opposite direction to another object.
Water Resistance	A force that is caused by water going in the opposite direction to another object.
Pulley	A wheel with a grooved rim that changes the speed of a mechanism.
Lever	A rigid bar on a pivot that is used to move heavy things.
Gear	A toothed wheel that works to alter the speed of a mechanism

Significant Scientist!

Isaac Newton was an English physicist. He is well known for many discoveries. He discovered gravity over 350 years ago and first described it as a 'pulling force'

What is our enquiry type?

Observing Changes Over Time	Pattern Seeking	Identifying, Grouping & Classifying	Fair Testing	Research

Working scientifically skills.

How will I be a scientist?

PLAN		DO	
Plan	I will plan an enquiry choosing appropriate equipment and identifying a range of different variables.	**Set up**	I will set up my enquiry carefully, I will ensure that only one variable is changed.

DO		REVIEW	
Measure	I will select appropriate measuring equipment and read scales accurately. I will take extra readings when needed.	**Report**	I will record my data in a table with multiple columns. From this, I will plot a range of appropriate graphs.