

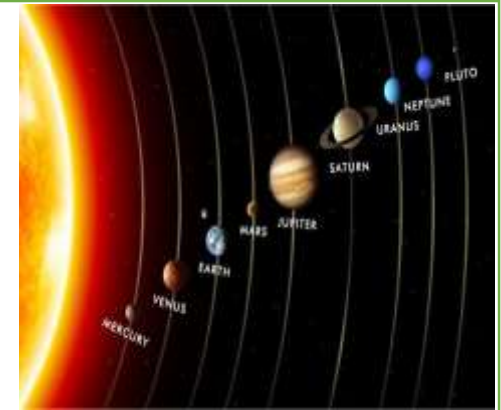


Year 5: Star Trek

1. Terms	Definitions
Spherical body	A 3D shape that is sphere shaped, e.g. a ball is spherical.
Rotate	To spin
Fixed orbit	To move in a regular, repeating, curved path around another object.
Sun	A huge star that planets orbit around.
Star	A giant ball of gas held together by its own gravity.
Moon	A natural satellite that orbits planets.
Satellite	An object in space that orbit something else, the Moon is a satellite of the Earth.
Forces	Pushes or pulls
Gravity	A force that pulls everything towards the centre of the Earth (or anything else which has a mass).
Air resistance	Air resistance is a type of friction between air and another material.
Water resistance	Water resistance is a type of friction between water and another material.
Newtons	a newton is a measurement that we use to measure force.

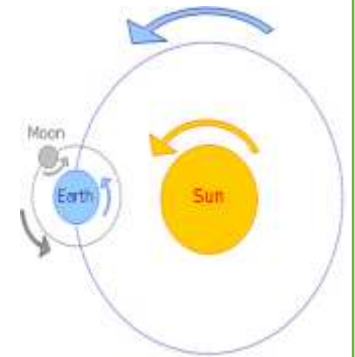
2. Space The Solar System

- The Sun is a star. It is at the centre of our **solar system**.
- There are 8 planets in our **solar system**.
 - These travel around the Sun in fixed orbits.
 - Mercury, Venus, Earth and Mars** are rocky planets, mostly made out of metal and rock.
 - Saturn, Uranus and Neptune** are mostly made out of gases (helium and hydrogen)
 - The planets are spherical bodies (they are sphere shaped)



The Earth

- The Earth takes 365¼ days to complete its orbit around the Sun.
- The Earth **rotates** (spins) on its axis every 24 hours.
 - As Earth rotates half faces the Sun (day) and half is faces away from the Sun (night).
 - As the Earth rotates, the Sun appears to move across the sky; however the Earth is one the moving, not the Sun.
- The Moon **orbits** the Earth. It takes about 28 days to complete its orbit.
- The Sun, Earth and Moon are approximately **spherical**.



3. Forces

A force causes an object to start moving, stop moving, speed up, slow down or change direction.



Gravity (non-contact force)	Air resistance, water resistance and friction (contact forces)
<ul style="list-style-type: none"> Everything is pulled to the centre of the Earth by gravity. This causes unsupported objects to fall. Isaac Newton saw an apple fall to the ground and it sparked his interest of gravity. 	<ul style="list-style-type: none"> They are contact forces that act between moving surfaces. The object may be moving through the air or water, or the air and water may be moving over a stationary object.

Pulleys, gears and levers

- A **mechanism** is a device that allows a small force to be increased to a larger force.
- However, to do this, it requires a greater movement.
- The small force moves a long distance and the resulting large force moves a small distance, e.g. a crowbar or bottle top remover.
- Pulleys, levers and gears** are all **mechanisms**.

