

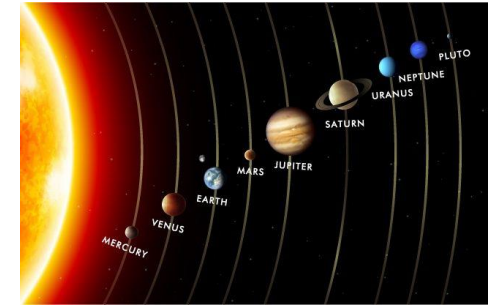
Year 5: Star Trek

1. Terms	Definitions
Spherical	A 3D shape that is sphere shaped, e.g. a ball is spherical
Rotates	To spin
Fixed orbit	To move in a regular, repeating, curved path around another object
Axis	An imaginary line that a object rotates around. The earth's axis runs from the North to the South pole
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)
Earth's gravitational pull	The pull that Earth exerts on an object – they are pulled towards the centre of the Earth.
Weight	The measure of the force of gravity on an object
Mass	A measure of how much matter/ 'stuff' is inside an object

2. Space

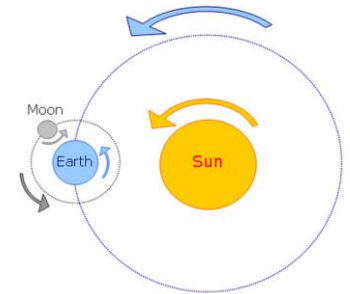
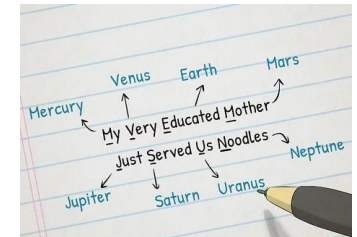
The Solar System

- The Sun is a star.
- It is at the centre of our solar system.
- There are 8 planets.
 - 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 Earth

- The Earth takes 365 1/4 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.

