SUBJECT: Science YEAR: 7 MTP TITLE: Space HALF TERM: _ NO. OF LESSONS (approx): 10

Deliberate and specific retrieval of expected prior knowledge (be specific)

From KS1
Observe seasonal changes (temperature and length of day)
Observe and describe weather associated with seasons and how day length varies

From KS2
Light is reflected from surfaces
Dark is the absence of light
Not safe to look directly at the sun
Movement of the Earth and other planets relative to the sun in the solar system
Describe the movement of the moon relative to the Earth
Describe the Sun, Earth and moon as approximately spherical bodies, with the sun being the largest and the moon being the smallest.
Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky
Objects fall to Earth due to gravity

Academic transformation (be specific)

Universe
Our sun as a star and there are billions of stars in our galaxy
There are billions of other galaxies within the observable Universe.
A light year is a unit of distance and light takes several minutes to reach Earth from the Sun.

Earth
Seasons are caused by the tilt of the Earth on it's axis – not its distance from the sun.
Day length at different times of the year, in different hemispheres due to the rotation of Earth around it's axis.

Solar System
Our planet is 3rd from the sun in the goldilocks zone, perfect for life.
Mars is also in the goldilocks zone, so has the potential for life.
All of the planets in our solar system orbit the Sun on tilted axes and moons orbit the planets.
Other objects in our solar system include asteroids, comets and satellites

Gravity/ Weight:
Mass is a quantity of substance that doesn't change in relation to gravity, and weight is a force depending on gravity.
Weight = mass x gravitational field strength
Gravity acts between the Earth and the moon and the Earth and the sun

Personal transformation (2 or 3)

- Object's with strongest gravitational pull (black holes)
- Oort cloud and the Kuiper belt
- Do Aliens exist?
- Telescopes in astronomy
- Living on Mars
- Space travel
- The lives of stars
- JWST – Search for habitable planets

Can I Learning Questions

- *Can I explain what causes day and night?*
- *Can I describe how the Earth's tilt causes the seasons?*
- *Can I describe the causes of lunar and solar eclipses?*
- *Can I describe the difference between mass and weight?*
- *Can I describe the different parts of our Solar system?*
- *Can I identify the largest objects in the Universe*

Literacy

Tier 2 vocab
Describe, explain, Axis, Sun, stars, galaxy, universe, planets, moon, Earth, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, Season, Mass, Weight

Tier 3 vocab
Satellites, asteroids, atmosphere, comets, equator, galaxy, solar system, orbit, Oort cloud, Goldilocks zone, axis, black holes,

Misconceptions (5 or 6 examples)

- *The Earth is the centre of the solar system and everything else orbits around it*
- *The solar system formed immediately after the big bang*
- *The solar system and the galaxy ae the same thing*
- *The sun is on fire*
- *The solar system only includes the planets, the Sun and our moon*
- *There is a dark side of the moon*