S3 SPACE OUTCOMES

1. I know the explanation for days, years and leap years and month in terms of the cosmos
2. I can tell the direction of travel of the Earth in space by the motion of the sun and moon.
3. I can tell the difference between astronomy and astrology
4. I can define the terms, planet, dwarf planet, moon, asteroid, solar system, star, sun, exoplanet, galaxy, universe, meteor, and meteorite.
5. I can identify the planets in our solar system in order and can find information about each one.
6. I can research space probes that have visited each planet in our solar system and what they have discovered.
7. I can tell the difference between a sun and a star.
8. I can explain the phases of the moon
9. I can explain the reasons for season and identify what would happen if a planet was tilted less or more
10. I can explain the terms *mass, weight, gravitational pull, weightlessness, free-fall*
11. I can state the evidence for the Moon Landings
12. I have a basic understanding of the Universe https://map.gsfc.nasa.gov/universe/uni_life.html
13. I am aware of the benefits of satellites: for example for GPS, weather forecasting, communications, scientific discovery and space exploration (for example Hubble telescope, ISS).
14. I know that geostationary satellites have a period of 24 hours and orbit at an altitude of 36 000 km above the equator on the Earth's surface.
15. I know that the period of a satellite in a high altitude orbit is greater than the period of a satellite in a lower altitude orbit.

16. I am aware of the challenges of space travel.
17. I have a basic awareness of how astronauts manoeuvre a spacecraft in a zero friction environment, possibly to dock with the ISS
18. I have a basic awareness of maintaining sufficient energy to operate life support systems in a spacecraft, with the possible solution of using solar cells with area that varies with distance from the Sun
19. I can describe how different parts of the electromagnetic spectrum are used to obtain information about astronomical objects.
20. I can describe the risks associated with manned space exploration such as fuel load on take-off, potential exposure to radiation, pressure differential and re-entry through an atmosphere.
21. I have knowledge of Newton's second and third laws and their application to space travel, rocket launch and landing.
22. I can use W=mg to solve problems involving weight, mass and gravitational field strength, in different locations in the universe.
23. I can correctly use the term light year.
24. I can convert between light years and metres.
25. I can give a basic description of the Big Bang theory of the origin of the Universe.
26. I know that the estimated age of the Universe is approximately 14 billion years or 13.8 billion years old.