Learning Journey – 8L Space

What have I done previously in my learning journey?	
Previously….	Previously you have learnt about the Earth and space. This has involved learning about: • The movement of the Earth, and other planets, relative to the Sun in the solar system • The movement of the Moon relative to the Earth • The Sun, Earth and Moon as approximately spherical bodies • The idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.
In this topic…	You will learn more about space physics. This will include learning about: • The strength of gravity, which is different on Earth compared to other planets and stars • The gravitational forces between the Earth and Moon, and between Earth and Sun • Our Sun as a star, other stars in our galaxy, other galaxies • The seasons and the Earth's tilt, day length at different times of year, in different hemispheres • The light year as a unit of astronomical distance

We will develop our learning by studying the following each lesson:	RAG	Skills in Science checklist
8L.01 The Earth • Describe the terms: day, month and year on Earth. • Explain the following terms: lunar month, and leap year. • Describe what causes the seasons on Earth • Explain the differences between the seasons in the northern and southern hemispheres		☐ Scientific Methods ☐ Practical ☐ Number skills ☐ Application ☐ Communication
8L.02 The Solar System • Identify the planets in our solar system. • Describe the planets in our solar system.		☐ Scientific Methods ☐ Practical ☐ Number skills ☐ Application ☐ Communication
8L.03 Gravity • Define gravity, mass and weight. • Calculate mass or weight using gravitational field strength.		☐ Scientific Methods ☐ Practical ☐ Number skills ☐ Application ☐ Communication
8L.04 Mars • Describe the surface of the planet Mars. • Describe the job of a Mars rover.		☐ Scientific Methods ☐ Practical ☐ Number skills ☐ Application ☐ Communication
8L.05 Life on Mars • Explain some of the challenges humans will face if they are living on Mars.		☐ Scientific Methods ☐ Practical ☐ Number skills ☐ Application ☐ Communication
8L.06 Stars • State that light travels very fast, at the speed of light. • Explain what is meant by a 'light year'. • Describe why light is measured in light years, and not as a distance • Describe stars, solar systems, and galaxies, in order of magnitude • Describe the lifecycle of a small star • Describe the lifecycle of a giant star		☐ Scientific Methods ☐ Practical ☐ Number skills ☐ Application ☐ Communication

Key Vocabulary

Day	Month	Year	Lunar month	Leap year	Seasons	Hemisphere	Planet	Solar System
Gravity	Mass	Weight	Gravitational field strength	Rover	Light year	Small star	Giant star	Galaxy

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Future Learning	In GCSE Physics you will learn that questions about where we are, and where we came from, have been asked for thousands of years. In the past century, astronomers and astrophysicists have made remarkable progress in understanding the scale and structure of the universe, its evolution and ours. New questions have emerged recently. 'Dark matter', which bends light and holds galaxies together but does not emit electromagnetic radiation, is everywhere – what is it? And what is causing the universe to expand ever faster?
In careers	Astrophysics is a branch of space science that applies the laws of physics and chemistry to seek to understand the universe and our place in it. The field explores topics such as the birth, life and death of stars, planets, galaxies, nebulae and other objects in the universe. Astrophysicists can earn £50,498 Astronomers are scientists who study the Universe and the objects within it. There are so many interesting things to learn about within the Universe that astronomers often become specialists who focus on galaxies, stars, planets, star-forming regions, the Sun, the search for life, or the origin and evolution of the Universe as a whole. Many astronomers are also professors at universities or colleges and spend time teaching as well as doing research. Other astronomers help plan and support space missions. Astronomers can earn £44,219