Curriculum Summary Document Year 7 Science

Module/Unit of Learning	Term Taught	What will students learn?	How will this build a broad and strong foundation?	Links to other subjects
SAMBA – Lab Skills	Autumn 1/2 Or Autumn 2/Spring 1	As an introduction students will gain fundamental practical and working scientifically skills needed for the 5-year journey through science.	Having good scientific skills and being able to work safely are crucial for the rest of their science journey. These skills will be used throughout their 5 years Knowledge of the particle model of matter, changes of state and atoms, elements and compounds are fundamental for students to be able to comprehend the rest of chemistry. Being able to access the periodic table (groups, periods, atomic mass etc) is a fundamental skill in chemistry.	
SAMBA - Particle Model	Autumn 1/2 Or Autumn 2/Spring 1	This topic looks at the fundamentals of chemistry including the particle model, atoms, elements and compounds. They will also explore state changes and how to explain processes such as dissolving.		
SAMBA - Periodic Table	Autumn 1/2 Or Autumn 2/Spring 1	Students will explore Mendeleev's role in the development of the Periodic table. They will then look at how the modern table is organised and used in science.		.
Colonising Mars - Universe	Autumn 1/2 Or Autumn 2/Spring 1	Students will learn about the solar system and Earth's place within it. They will then look at space exploration and how this has led to our understanding of the universe today.	Space is a fascinating topic for many students and inspires awe and wonder. They will learn about our place in the universe and how it may be possible to colonise another planet such as Mars. Space is a topic studied in GCSE Physics.	
Colonising Mars - Speed	Autumn 1/2 Or Autumn 2/Spring 1	Students will learn and apply the speed equation and learn how to construct and interpret distance time graphs given data about a journey.		PE

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Colonising Mars - Gravity	Autumn 1/2 Or Autumn 2/Spring 1	Students will learn that mass and weight are different but related. Mass is a property of the object; weight depends upon mass but also on gravitational field strength. Every object exerts a gravitational force on every other object. Gravity holds planets and moons in orbit around larger bodies.		
Colonising Mars – Photosynthesis and Respiration	Autumn 1/2 Or Autumn 2/Spring 1	This topic looks at the fundamental reactions for life. Plants use light energy along with carbon dioxide and water to make glucose. This glucose is then used to release energy but the process of respiration.		PE
Colonising Mars - Energy	Autumn 1/2 Or Autumn 2/Spring 1	Students will explore the many ways by which electricity can be generated, both renewably and non-renewably. They will then consider the pros and cons of each method to be able to justify the best choice for a community.		.Geography
Lost at Sea - Forces	Spring 1/2 Or Spring 2 / Summer 1	When the resultant force on an object is zero, it is in equilibrium and does not move, or remains at constant speed in a straight line. One effect of a force is to change an object's form, causing it to be stretched or compressed. Students will then apply knowledge of forces and pressure to explain floating and sinking.	Forces act on all objects and explain why objects change motion. This module allows us to explain why objects move, which links to future physics modules on space, electricity and magnetism.	
Lost at Sea – Universe	Spring 1/2 Or	We experience the seasons due to the Earth's tilt, day length at		

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	Spring 2 / Summer 1	different times of year, in different hemispheres.		
Lost at Sea – Separating Mixtures	Spring 1/2 Or Spring 2 / Summer 1	Students will firstly consider the difference between pure and impure substances. A pure substance consists of only one type of element or compound Mixtures may be separated due to differences in their physical properties. The method chosen to separate a mixture depends on which physical properties of the individual substances are different.	Building on their knowledge of elements and compounds, students now gain knowledge of mixtures and how to separate them. Magnets draws links between forces, energy and electricity. Having an understanding of magnets and electromagnets will allow students to comprehend more complex content such as motors in Y11.	
Lost at Sea – Magnetism and Electromagnetism	Spring 1/2 Or Spring 2 / Summer 1	Students will learn about magnets, how to construct electromagnets and use Earth's magnetic field to explain how compasses work.		
Old McDonald - Interdependence	Spring 1/2 Or Spring 2 / Summer 1	Students finish the year by studying food webs and chains and how factors can affect the distribution of organisms. They will also look at how animals are classified and how keys can be used to identify unknown species.	This modules acts as a foundation for the Ecology topic studied at GCSE Biology.	Geography
Old McDonald - Cells	Spring 1/2 Or Spring 2 / Summer 1	Students will review the fundamentals of cells as well as the organisation of organisms with a focus on how specialised cells are adapted to carry out a particular function.	Cells and systems are a fundamental part of biology. Understanding of the basic structure of cells and the function of sub cellular structures. This allows students to link organ	

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			systems to how they function.	
Old McDonald _ Digestion	Spring 1/2 Or Spring 2 / Summer 1	Students will explore the different food groups and how these together contribute to a balanced diet. They will then look closely at the organs of the digestive system and how this aids the breakdown of food to provide nutrients for the body.	Digestion and enzyme action are met again in Y9 GCSE biology. This provides the basics that will allow students to add detail to the process at this point.	Catering/ Food Technology
Old McDonald – Human and Plant reproduction	Spring 1/2 Or Spring 2 / Summer 1	Students will look at the systems involved in human reproduction, the menstrual cycle. They will then go onto study fertilization and how a pregnancy develops in humans/similar mammals. This will then be compared to plant reproduction where students will be able to explore the parts of a plant involved in sexual reproduction and seed production.		Child development