Year 3 Science

Subject Group Overview

Unit title	Key concept	Related Concept(s)	Global context & Exploration	Statement of inquiry	MYP subject specific objectives and strands	Content (topics, knowledge, skills)
Nature of Science	Relationships	Interactions Patterns	CG: Scientific and Technical Innovation Ex: Processes and solutions	Relationships in systems, processes and solutions are based on patterns and interactions between variables.	A, B, C, D: All strands	Scientific investigations are the result of logical reasoning to make sense of collected evidence. When conducting your investigation, the data will either support or fail to support your hypothesis. The process of planning the scientific investigations is the same in all fields of science but the methods of conducting the investigation may differ. Understand the importance of a scientific theory and the role it plays in science.
Matter (60 days)	Change Relationships	Models	CG: Scientific and Technical Innovation Ex: Systems	Models can be used to demonstrate the relationships between smaller parts of a system and how they relate to one another as they change.	B, C: all strands	An understanding of the scientific theory of atoms (atomic theory) by investigating the composition of atoms. Protons, neutrons, and electrons can be differentiated in terms of their mass, electrical charges, and their locations within the atom.

						Scientific theory of atoms (atomic theory) can be used to explain the motion of particles. The difference between weight and mass. Understand the concept of density in various materials. Matter can be broken up into four states. Substances can be characterized based on their physical properties. Know the difference between mixtures, solutions, and pure substances. The law of conservation of mass and how it applies to substances that go through physical and chemical changes. Physical changes and chemical changes can result in similar or very different substances. Chemical changes can be affected by changes in temperature.

						Atoms make up elements which combine to produce compounds that make up all living and nonliving things. Elements are grouped on the periodic table due to the similarities of their properties. The arrangement of electrons in an atom determines its position on the periodic table. Acids, bases, and salts can be classified by the properties that compose these compounds. The process of photosynthesis and how oxygen is produced. Photosynthesis is the result of a combination of reactants resulting in a predictable product. An understanding of cellular respiration and how the process provides energy and releases carbon dioxide. The basic functions of aerobic and cellular respiration.

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Cycles in Chemistry (10 days)	Systems	Balance Movement	Scientific and Technical Innovation Models	Modeling cycles demonstrate the balance and movement within a system.	A: all strands	The function of the carbon cycle and the transfer of energy. The role of the law of conservation of mass and the law of conservation of energy in all living systems.
Space (58 days)	Relationship	Interactions Patterns	Scientific and Technical Innovation Systems	Patterns and interactions form relationships among systems.	A, C, D: all strands	Stars are classified based on their physical properties. Scientists apply the knowledge of light and space travel to understand the distances between objects in space. The vastness of the universe. Objects in our solar system can have vastly different properties. Relationships between planets and other astronomical bodies relative to the solar system, galaxy, and the universe. The law of universal gravitation is used to explain the role that gravity plays in the formation of galaxies. Models of the solar system

						have been revised over time. Models of solar properties can be used when experiments are not possible. The dynamic nature of the Sun and it's physical properties affects the conditions and events on Earth. The objects in space do not function independent of each other. Understand the characteristics of the electromagnetic spectrum and its application in space. The vital role technology plays in accessing outer space. The effects of space exploration on the economy and culture of Florida.