Admiralty Primary School
Primary 5 Science

Term 1&2 – **Theme: Cycles**

- Reproduction in Animals and Plants
- Cycles in Water

Essential Takeaways	Key Inquiry Questions
• There are repeated patterns of change around us. • Understanding cycles helps us to make predictions about events and processes around us.	• What makes a cycle? • How does a cycle help us predict events and processes? • Why are cycles important to life?

Core Ideas	Practices	Values, Ethics and Attitudes
Reproduction in Animals & Plants		
• Recognise that a cell is a basic unit of life. • Show an understanding that living things reproduce to ensure continuity of their kind and that many characteristics of an organism are passed on from parents to offspring. • Describe processes in the sexual reproduction of flowering plants. - Pollination - Fertilisation (seed production) - Seed dispersal - Germination • Recognise the process of fertilisation in the sexual reproduction of humans. • Recognise the similarity in terms of fertilisation in the sexual reproduction of flowering plants and humans.	• Investigate the ways in which plants reproduce. - Spores - Seeds	• Show curiosity by questioning and exploring the surrounding plants and animals. • Show care and concern by being responsible towards plants and animals.

Cycles in Water		
• Recognise that water can exist in three interchangeable states of matter. • Show an understanding of how water changes from one state to another. - Melting (solid to liquid) - Freezing (liquid to solid) - Boiling/Evaporation (liquid to gas) - Condensation (gas to liquid) • Show an understanding of the terms melting point of ice (or freezing point of water) and boiling point of water. • Show an understanding of the roles of evaporation and condensation in the water cycle. • Recognise the importance of the water cycle. • Recognise the importance of water to life processes. • Describe the impact of water pollution on Earth's water resources.	• Compare water in 3 states. • Investigate the effect of heat gain or loss on the temperature and state of water. - When ice is heated, it melts and changes to water at 0^oC. - When water is cooled, it freezes and changes to ice at 0^oC. - When water is heated, it boils and changes to steam at 100^oC. - When steam is cooled, it condenses to water. • Investigate the factors which affect the rate of evaporation. - Wind - Temperature - Exposed surface area	• Show concern for water as a limited natural resource and be responsible in conserving.

Term 2 to 4 – **Theme: Systems**

- Human Respiratory and Circulatory Systems
- Photosynthesis (Theme: Energy)
- Electrical Systems
- Simple Series and Parallel Electric Circuits

Essential Takeaways	Key Inquiry Questions
• A system is made of different parts. Each part has its own unique function. • Different parts of a system influence and work together to perform function(s).	• What is a system? • How do different parts/systems work together to perform function(s)? • Why is it important to understand how parts/systems work together?

Core Ideas	Practices	Values, Ethics and Attitudes
Human Respiratory and Circulatory Systems		
• Recognise that air is made up of gases such as nitrogen, carbon dioxide, oxygen and water vapour. • Identify the parts of the human respiratory (nose, windpipe, lungs) and circulatory systems (heart, blood, blood vessels) and describe their functions. • Recognise the integration of the different systems (digestive, respiratory and circulatory) in carrying out life processes.	• Compare how plants, fish and humans take in oxygen and give out carbon dioxide. • Compare the ways in which substances are transported within plants and humans. - Plants: Tubes that transport food and water - Humans: Blood vessels that transport digested food, oxygen and carbon dioxide	• Show objectivity by seeking data and information to validate observations and explanations about the human body.
Photosynthesis		
• Recognise that living things need energy from respiration to carry out life processes. • Recognise that the Sun is our primary source of energy (light and heat). • Differentiate between the ways in which plants and • animals obtain energy.	- Investigate the requirements (water, light energy and carbon dioxide) for photosynthesis (production of sugar and oxygen).	• Show objectivity by using data and information to validate observations and explanations about photosynthesis.

Electrical Systems & Simple Series and Parallel Circuits		
• Recognise that an electric circuit consisting of an energy source (battery) and other circuit components (wire, bulb, switch) forms an electrical system. • Show an understanding that a closed circuit allows current to flow. • Identify electrical conductors and insulators.	• Construct simple circuits from circuit diagrams. • Investigate the effect of some variables on the current in a circuit. - Number of batteries (arranged in series) - Number of bulbs (arranged in series and parallel)	• Show concern for the need to conserve and to have proper use and handling of electricity.