Grade 1

In the Primary Years Programme (PYP) Science curriculum, students engage in hands-on, inquiry-based learning to explore the world around them through transdisciplinary themes. They investigate the natural world and human-made systems, developing an understanding of key concepts like change, connection, and responsibility. Through experiments, observations, and critical thinking, students build scientific knowledge, learn how to ask questions, and work collaboratively to solve real-world problems. The focus is on understanding how living and nonliving things interact, how systems work, and how humans can contribute to the sustainability of the environment and resources.

Science is divided into three strands which are taught progressively.

- ☐ **Living Things:** Students will explore the world of living things, including plants, animals, and people. They will learn how living things grow, change, and adapt to their environments, and how each one has special features and ways of behaving. Through observation and discussion, students will discover patterns in nature and explore how living things are connected and depend on one another to live and stay healthy. They will begin to understand the importance of taking care of all living things and the environment, helping them become thoughtful and caring stewards of our planet.
- ☐ **Earth and Space:** Students will explore planet Earth and its place in the solar system. They will learn about the land, water, air, and living things that make up our planet, and how these parts work together. Students will discover how Earth changes over time through things like seasons, weather, and natural events. They will explore how people, animals, and plants live in different places and adapt to changes in their environment. Students will also begin to understand how we can take care of Earth by using its resources wisely and thinking about the future. They will learn how people observe the world and use tools and models to help us understand more about Earth and space.
- ☐ **Physical and Chemical Science:** Students will explore different materials and objects around them, learning what they are made of and how they behave. They will discover how materials can change, like how water can freeze into ice or turn into steam. Students will also experiment with mixing and changing materials to see what happens, and how people use different materials to make things that help us. They will learn how people design new tools and technologies, and think about how these inventions can affect the world and the environment.

LIVING THINGS/ PHYSICAL AND CHEMICAL SCIENCE

Body Systems	
Central Idea	**Many systems in our body work together to help us function**
I can name some important parts inside my body e.g. heart, lungs, stomach	

I am beginning to be able to describe what my heart and lungs do to help me stay alive
I can draw and label the main parts of my body and explain their functions
I can explain how my brain helps me to think and move
I can tell how different body parts work together e.g. my heart and lungs help me breathe and move
I understand that my body needs all of its parts to work together to stay healthy
I can explain that my body needs all of its parts to work together to stay healthy
I can explain how my muscles and bones help me to move
I can name different kinds of food and say which ones are healthy
I can explain why I need to eat fruit, vegetables and drink water
I can explain why moving my body is good for my health
I can explain how food and exercise helps my body to grow strong and stay healthy

LIVING THINGS/ EARTH AND SPACE/ PHYSICAL AND CHEMICAL SCIENCE

Home and Away	
Central Idea	**Our understanding of our home and host countries develops our understanding of each other's cultures and brings us together**
I am beginning to explain how climate and weather influence the way people build their homes in different parts of the world	
I can describe how some homes are built differently in environments such as deserts, mountains, rainforests, and cold regions	
I can identify some physical features of a region (such as landforms, climate, and natural resources) and explain how they affect the design of homes	
I can give some examples of how people adapt their homes to stay safe and comfortable during extreme weather conditions	
I can identify materials used to build homes in different parts of the world and explain some of the reasons why those materials are chosen based on their properties	

I can compare materials such as mud, wood, stone, or metal and explain why they are suitable for certain environments
I can classify different types of homes based on the materials used and the environmental conditions they are designed for
I am beginning to explore how the availability of natural resources affects the structure and function of homes around the world
I can identify and describe different types of homes from around the world and explain how they reflect the people, culture, and environment where they are found e.g. yurts for nomadic communities
I am beginning to use maps, images, and climate data to investigate why homes are built the way they are in different regions
I can design/build a model home that suits a specific environment and explain the materials and features I chose to include

LIVING THINGS/ PHYSICAL AND CHEMICAL SCIENCE

Scientists	
Central Idea	**Science is a way of investigating that combines our natural curiosity with a systematic way of thinking**
I am beginning to describe what scientists do and why their work is important	
I can name some famous scientists and explain what they discovered	
I can explain how some scientific discoveries help us understand the world better	
I can ask questions like a scientist to learn more about how things work	
I can make some connections between science and real-life situations	
I can ask a testable scientific question	
I can make a hypothesis and explain my thinking with support	
I can carry out an investigation step by step using the scientific method	
I can record my observations and results clearly	
I can reflect on my findings and suggest ways to improve the investigation	
I can plan my own experiment with a clear purpose and procedure	

I can choose the right tools and materials for my experiment
I can work with others to carry out an investigation safely and carefully
I am beginning to present what I discovered using graphs, charts, or models
I can explain some of my results to others and listen to their ideas too

PHYSICAL AND CHEMICAL SCIENCE

Clothes	
Central Idea	**Where we live and the work we do influences the clothes we wear**
I can identify and sort different materials clothes are made from, like cotton, wool, and synthetic fibres	
I can describe the properties of materials used in clothing e.g. soft, stretchy, waterproof, warm	
I am beginning to explain why certain materials are chosen for specific clothes e.g. raincoats vs. swimwear	
I am beginning to investigate how natural and synthetic materials are processed to become fabrics	
I understand how the weather, seasons, and climate affect the clothes people wear	
I can explain how different jobs need different types of clothing for protection, safety, or purpose	
I am beginning to understand how culture and location influence what people wear	
I can ask questions and investigate why clothes differ in various parts of the world	
I can explain how making clothes uses water and makes waste or pollution	
I am beginning to understand how we can reduce waste by reusing or recycling clothes	
I am beginning to understand the difference between sustainable and non-sustainable clothing materials	
I can share what I’ve learned about the environmental effects of clothing with others	

LIVING THINGS/ EARTH AND SPACE

What Plants Need	
Central Idea	**Plants have specific needs in order to grow and stay healthy**
I am beginning to describe what plants need to grow well, including healthy roots, leaves, stems, water, light, and the right temperature	
I can explain that water is taken in through the roots and transported through the stem to the rest of the plant	
I am beginning to understand how too much or too little water affects plant growth	
I can make careful observations and measurements of plants as they grow	
I am beginning to use simple tools to measure the height of plants using standard units	
I am beginning to measure water accurately when giving it to plants using standard units	
I can present my observations using annotated drawings	
I can explain what I observe when studying plants using some scientific language	
I can use results from experiments to draw conclusions	
I can ask some scientific questions about how plants grow	
I can suggest ways to make a plant growth test fair with support	
I am beginning to describe what happened in my experiment using scientific language	
I can explain why using only one plant in an experiment does not give enough evidence with support	