Science Progression and Working Scientifically 24-25 at Grange Primary School

For more detailed information please visit the HEP science curriculum map.
For more information on the working scientifically skills please visit the SEERIH enquiry for all website.

Working Scientifically 

Topic/Year	Reception	1	2	3	4	5	6
Animals, including humans & health	Understand human body parts and their functions. Use books, pictures or real- life observation to distinguish between different animals based on characteristics and habitats. Understand the importance of personal hygiene and healthy habits.	**Animals, Including Humans:** Identify and name common animals including fish, amphibians, reptiles, birds, and mammals, carnivores, omnivores and herbivores. Compare common structures. Identify, name, draw, and label the human body parts and senses. 	**Animals, Including Humans:** Understand life cycles and differences in offspring and adults. Understand basic needs of animals and humans for survival. Importance of a healthy lifestyle. Discuss how these life cycle stages are connected.  Pupils conduct a heart rate experiment before and after exercises. Record differences.	**Animals, Including Humans:** Understand nutrition, transportation of water and nutrients in the body, and the skeletal and muscular system in humans and other animals.	**Animals, Including Humans:** Digestive system, teeth, and food chains.	**Animals, Including Humans:** Changes in humans from birth to old age.	**Animals, Including Humans:** Circulatory system, impact of diet, exercise and lifestyle on health.

			 Using Observations to Suggest Answers: Discuss why exercise affects heart rate  Using Ideas to Suggest Answers: Discuss how eating different foods affects health. 				
Living Things and Their Habitat	Understand how different habitats meet the needs of the animals or plants living there. Identify changes in habitats across seasons.	n/a	**Living Things and Their Habitats:** Distinguish between living, dead, and non-living things. Understand how habitats and microhabitats meet the needs of organisms. Understand simple food chains.	n/a	**Living Things and Their Habitats:** Classification of living things in local and wider environment. Describe how environmental change can sometimes pose dangers to living things.	**Living Things and Their Habitats:** Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in	**Living Things and Their Habitats:** Classify living things including micro- organisms. Understand reasons for classification. Understand fossils and evolution. Know offspring variation and

			Pupils create simple food chains 			some plants and animals.	environmental adaptation.
Plants	Identify the key features of the life cycle of plants and the need for water, light, and nutrients in plant growth.	**Plants:** Identify and name a variety of common plants, including garden plants, wild plants and trees, and those classified as deciduous and evergreen. Identify the basic structure of plants.  	**Plants:** Observe and describe how seeds and bulbs grow into mature plants Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. What do plants need to grow?  Plant sunflower seeds and change variables 	**Plants:** Understand the part that flowers play in the life cycle of flowering plants, including pollination, seed formation, and seed dispersal.	n/a	n/a	n/a

			 Measure plant height weekly 				
Materials and Their Properties	Understand and describe the properties of different materials. Recognise changes in materials under different conditions. Select materials based on their properties. Observe simple changes of state e.g., ice melting.	**Everyday materials:** Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Compare and group materials based on physical properties.	**Uses of everyday materials:** Understand the suitability of a material for a particular job. Understand how shapes can be changed by squashing, bending, twisting, and stretching Test materials to see if they bend, twist, stretch, or squash. Make predictions, conduct tests, and observe outcomes. 	N/A	**States of matter:** Compare and group materials based on states, evaporation, condensation, freezing and melting (changes of state).	**Properties and changes of materials:** Testing material properties, solubility, reversible and irreversible changes. Rationale for uses of materials.	N/A

			Identifying & Classifying: Pupils classify materials based on properties.  Recording Data: Pupils draw tests and describe observations.  .				
Forces	Explore the impact of different forces on objects. Floating and sinking. Introduction to magnetism through play.	**N/A**	**N/A**	**Forces and magnets:** Explore and compare how forces, including magnetism, affect the movement of objects across different surfaces. Understand that magnets have two poles, can act at a distance, and attract certain materials, and predict the interactions between magnets.	**N/A**	**Forces:** Understand the effects of gravity, air resistance, water resistance and friction. Understand that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	N/A

Electricity:	Understand the safety aspects of using electricity. Know that batteries or electricity can make some toys and appliances work	**n/a**	**n/a**	**n/a**	Electricity: Learn about simple electrical circuits and conductors and insulators. n/a	n/a	Understand how number and voltage of cells affects components Use symbols to represent circuit diagrams.
Light	Understand how light interacts with different surfaces and explore the concept of shadows.	**N/A**	**N/A**	**Understand that we see** things because light reflects off surfaces. Understand the danger of sunlight and how to protect eyes.	N/A	N/A	Understand that light travels in straight lines, allowing us to see objects either because they emit or reflect light into our eyes. Explain that this principle causes shadows to take the shape of the objects casting them.
Sound	Recognise loud and soft sounds. Pitch matching. Understand how sounds can be changed and match sounds to their sources	**N/A**	**N/A**	**N/A**	Sound: Understand how sounds are made, associate sounds with vibrations. How sound travels and is detected. Understanding pitch and	N/A	N/A
Space and Season..	Stars, planets, and the moon. Observe	Seasonal changes: Observe changes	Pupils should use the local	**N/A**	Pupils should use the local	Earth and space: Describe the	Pupils should study and raise

	and discuss changes in the moon's appearance. Identify the cycle of seasons and how it affects the world around them. Describe different types of weather and how it changes.	across the 4 seasons observe and describe weather associated with the seasons and how day length varies. Use the local environment throughout the year to explore and answer questions about plants and animals in their habitat	environment throughout the year to observe how plants grow. Nature walk to find living, dead, and never alive  Hand lenses to observe small plants, insects, or soil.  Make lists and draw findings.  		environment throughout the year to raise and answer questions that help them to identify and study plants and animals in their habitat They should identify how the habitat changes throughout the year.	movement of the Earth and other planets in the solar system. Describe the movement of the Moon. Understand the spherical shape of celestial bodies.	questions about their local environment throughout the year.