Science Progression Document 5-7 year olds Version January 2024

Part 1 : Knowledge and Understanding

Progression consideration: green, blue, purple

Knowledge and Understanding		Intended Year	Theme / challenge question	Dates covered Record when planned into yearly overview
To be taught about:	**This might include:**			
Plants	identify and name a variety of common wild and garden plants, including deciduous and evergreen trees; identify and describe the basic structure of a variety of common flowering plants, including trees.	2019-20	**What was it like when granny went shopping?** Identify parts of plants and life cycle. Structure of plants.	Autumn 2019
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.		How seeds change to a plant. From seed to plate. Harvest.	
Plants	Plants' place in the food chain, that they produce their own energy from sunlight (photosynthesis), and that they are 'producers'	2020-21	**What Create Fire and Light?** Identify some common trees found locally, and identify parts and structure of trees.	Autumn 2020
			Hot and Cold Describe how plants need water, light and a suitable temperature to stay healthy.	Spring 2021
			What is in an egg?	Summer 2021

			What makes Derbyshire so special? Learning about beans and growing from seeds.	Spring 2022
			Pond restoration project. Learning how to plant and care for plants	Spring 2022
			What colour is your world? - learning about forests. Differences between boreal, temperate, tropical rainforest. Identifying, naming, comparing native trees/plants, including those in our school garden	Summer 2022
		2022-23	**Halloween (theme week)** Pumpkin life cycle	Autumn 2022
Animals (including humans)	identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals ; identify and name a variety of common animals that are carnivores, herbivores and omnivores; describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) ; identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	2019-20	**What was it like when granny went shopping?** Animals which hibernate and migrate. Insects and amphibians. Basic need of animals for survival.	Autumn 19
Animals (including humans)	notice that animals, including humans, have offspring which grow into adults ; find out about and describe the basic needs of animals, including humans, for survival (water, food and air);	2019-20	**Why are our seas so important?**	Jan – March 2020

Animals (including humans)	describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Describe and compare the structure of a variety of common animals. Understanding food chains and that this comprises producers, consumers (herbivores/carnivores/omnivores) and decomposers.	2020-21 2020-21 2021-22	Structure of creatures under the sea and their needs to survive. **What Creates Fire and Light?** Identify nocturnal animals, and describe and compare their basic needs and behaviour. **Hot and Cold** Identify creatures that live in areas of extreme temperatures, describe and compare their structures and adaptations for survival, and how they care for their offspring. How humans could survive in extreme temperatures, linked to food and water. **What is in an egg?** Life cycle of birds, requirements for an egg to hatch. **Pond restoration project.** Habitats providing homes for a range of inter-dependent animals	Autumn 2020 Spring 2021 Summer 2021 Spring 2022 Summer 2022

		2022-23 2023-24	**What colour is your world?** Native woodland animals, food chains, habitats **What Makes for a Great Adventure?** Jungle Jo visit – exotic animals/habitats **Is it really all elemental?** The Great Stink – water borne disease, effect on humans Making animal homes in the school garden Beavers and dams	Summer 2023 Autumn 2023
Everyday Materials Use of 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 ; describe the simple physical properties of a variety of everyday materials ; compare and group together a variety of everyday materials on the basis of their simple physical properties. identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses ; find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	2019-20 2020-21	**Why are our seas so important?** Floating and sinking. Suitable materials used to make boats and their properties. **What creates fire and light?** Identify and name everyday materials, describe their simple properties link to building materials, houses, and ease of burning. Investigate how materials change when heated and burn.	Jan – March 2020 Autumn 2020

		2020-21 2023-24	**Hot and Cold** Investigate and group materials used to help us to keep warm, that insulate. **Is it really all elemental?** Uses of fire, identifying fuels	Spring 2021 Autum 23
Seasonal changes	observe changes across the four seasons ; observe and describe weather associated with the seasons and how day length varies.	2020-21	**What creates fire and light?** Link the weather with the spread of fire. Link the seasons with the hours of sunlight **Hot and Cold** Observe and describe the extremes of hot and cold weather and seasons **Outdoor learning.** First-hand observation of seasonal change	Autumn 2020 Spring 2021 Spring/Summer 2022
Living things and their habitats	explore and compare the differences between things that are living, dead, and things that have never been alive ; identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other ; identify and name a variety of plants and animals in their habitats, including microhabitats ; describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.	2019-20 2019-20 2020-21	**Why are our seas so important?** Oceans and seas (habitat) Simple food chains **Panda and bamboo week** Habitat of pandas, needs, comparison of giant and red pandas **What creates fire and light?**	Jan – March 2020 Sept 2019 Autumn 2020

	Understand that animals can be classified as herbivores, carnivores and omnivores		Simple food chains linked with nocturnal animals and their habitats.	
		2020-21	**Hot and Cold** Describe and compare habitats in an extreme hot and cold area, describe the plants and animals found there, and a simple food chain	Spring 2021
			What is in an egg? Life cycle of birds, requirements for an egg to hatch.	Summer 2021
			Pond restoration project. Habitats providing homes for a range of inter-dependent animals	Spring 2022
			What colour is your world? Native woodland animals, food chains, habitats	Summer 2022
			What Makes for a Great Adventure? Jungle Jo visit – exotic animals/habitats	Summer 2023
			Is it really all elemental?	Autumn 2023

			Where animals live – earth, water, air etc Survey of minibeasts in school garden Beavers and dams	
Light	recognise that they need light in order to see things and that dark is the absence of light; notice that light is reflected from surfaces; recognise that light from the sun can be dangerous and that there are ways to protect their eyes; recognise that shadows are formed when the light from a light source is blocked by an opaque object; find patterns in the way that the size of shadows change.	2020-21	**What creates fire and light?** Recognise the need for light, and dark is the absence of light, consider light from the sun and how shadows are formed and change.	Autumn 2020
Forces and magnets	Exploration based: compare how things move on different surfaces; observe how magnets attract or repel each other and attract some materials and not others; compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials;	2022-23	**Series of magnetism sessions** Knowing that magnets have a north and south pole, that same poles repel and opposite poles attract. Sorting (and naming) magnetic materials from non-magnetic materials using magnets. Using knowledge of the repelling force of magnets to navigate a toy car through an obstacle course without touching it!	Summer 2023
States of matter	compare and group materials together, according to whether they are solids, liquids or gases ; observe that some materials change state when they are heated or cooled. Identify some basic properties of solids, liquids and gases. Know that air is made up of gases.	2020-21	**What creates fire and light?** Observe that materials change state when heated. Know that air is made up of gases and identify some basic properties of gases.	Autumn 2020

		2021-22 2022-23	**What colour is your world?** Water cycle **Is it really all elemental?** Water cycle, water song Secret messages – chemical reactions	 Autumn 2023
Earth and Space	Names and order of planets Space exploration	2022-23	**What Would an Alien Make of Planet Earth?** Watch space shuttle launch Find out about the International Space Station What do astronauts do/need? Find out about Tim Peake and his significance to British space exploration Names and order of planets in our Solar System Characteristics of planets in our Solar System The Sun and the Moon	Autumn 2022
Working scientifically	Science experiments/activities with specific focus on the skills needed to work scientifically	2022-23 2023-24	**Off piste** Travelling colours experiment Heart rate experiment **Is it really all elemental?** Experiments with different types of aircraft to see which flew best	Summer 2023 Autumn 2023

			Rain gauges and water filters – measuring, testing, observing, hypothesising, drawing conclusions, making improvements Investigating water displacement –what happens to water level when you put in different sized objects The Great Stink – looking for patterns using data	

Part 2 : working scientifically

Ensure the following are built into the long and medium-term planning documents. Include these in the short / medium term objective grids (to go into books.) Audit at least once a term

	Audit point 1 Date : Jan 20	Audit point 2	Audit point 3	Audit point 4 Date: June 2023	Audit point 5 Date: Dec 23	Audit point 6 Date:

		Date: Dec 2020	Date: June 2022			
Performing simple tests		X	x	x	x	
Identifying and classifying	X	X	x	x	x	
Ask simple questions	X	X	x	x	x	
Observing	X	X	x	x	x	
Use observations to suggest answers to questions	X	X		x	x	
Gathering and recording data		X		x	x	