Hexham First School End points of our Science Curriculum - Progression in Knowledge

Statements taken from the National Curriculum - linked topics are in red

	Nursery	Reception	Year 1	Year 2	Year 3	Year 4
Plants **(Biology)**	Use all their senses in hands on exploration of natural materials Explore collections of materials with similar and/or different properties Plant seeds and care for growing plants Understand the key features of the life cycle of a plant and an animal Begin to understand the need to respect and care for the natural environment and all living things	Knowledge from Living things and their habitats and seasonal changes	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.	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.	identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant investigate the way in which water is transported within plants explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	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.
Animals including humans **(Biology)**	Use all their senses in hands-on exploration of natural materials. Begin to make sense of their own life-story and family's history.	Talk about members of their immediate family and community Name and describe people familiar to them	identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals	notice that animals, including humans, have offspring which grow into adults find out about and describe the basic needs	identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get	describe the simple functions of the basic parts of the digestive system in humans

	Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things.	Recognise some environments that are different to the one in which they live.	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.	of animals, including humans, for survival (water, food and air) describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	nutrition from what they eat identify that humans and some other animals have skeletons and muscles for support, protection and movement.	identify the different types of teeth in humans and their simple functions construct and interpret a variety of food chains, identifying producers, predators and prey.
Everyday Materials	Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties. Talk about the differences between materials and changes they notice.	Explore the natural world around them. Describe what they see, hear and feel whilst outside.	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	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.	Rocks Forces and magnets	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, and measure or research the temperature at which this happens in degrees Celsius (°C) identify the part played by evaporation and

			compare and group together a variety of everyday materials on the basis of their simple physical properties.	find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.		condensation in the water cycle and associate the rate of evaporation with temperature.
Seasonal changes		Explore the natural world around them. Describe what they see, hear and feel whilst outside. Understand the effect of the changing season on the natural world around them.	observe changes across the four seasons observe and describe weather associated with the seasons and how day length varies.			
Living things and their habitats	Use all their senses in hands-on exploration of natural materials Explore collections of materials with similar and/or different properties Begin to understand the need to respect and care for the environment and all living things	Draw information from a simple map Explore the natural world around them Describe what they see, hear, feel whilst outside Recognise some environments that are different to the one in which they live	knowledge comes from Plants, Animals including humans and seasonal change	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	knowledge comes from plants	recognise that living things can be grouped in a variety of ways explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment recognise that environments can change and that this can sometimes pose dangers to living things.

				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. Notice that animals, including humans , have offspring, which grow into adults (Animals, including humans)		
Rocks	Living things and their habitats	Living things and their habitats	Everyday materials	Uses of everyday materials	compare and group together different kinds of rocks on the basis of their appearance and simple physical properties describe in simple terms how fossils are formed when things that have lived are trapped within rock recognise that soils are made from rocks and organic matter.	
Light and Sound (physics)	**Light** - Explore how things work	**Light and Sound** - Describe what they see, hear and feel when outside	Animals including humans Materials		**Light** recognise that they need light in order to see things and that dark is the absence of light	**Sound** identify how sounds are made, associating some of them with something vibrating

	Talk about the differences in materials and changes they notice **Sound**- Explore how things work				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.	recognise that vibrations from sounds travel through a medium to the ear find patterns between the pitch of a sound and features of the object that produced it find patterns between the volume of a sound and the strength of the vibrations that produced it recognise that sounds get fainter as the distance from the sound source increases.
Forces and Magnets	Explore how things work. Explore and talk about different forces they can feel. Talk about the differences between materials and the changes they notice.	Explore the natural world around them. Describe what they see, hear and feel when outside		**Uses of everyday materials**	compare how things move on different surfaces notice that some forces need contact between two objects, but magnetic forces can act at a distance compare how things move on different surfaces	

					notice that some forces need contact between two objects, but magnetic forces can act at a distance 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 describe magnets as having two poles predict whether two magnets will attract or repel each other, depending on which poles are facing.	
Electricity	Explore how things work					identify common appliances that run on electricity construct a simple series electrical circuit, identifying and naming its basic parts, including

						cells, wires, bulbs, switches and buzzers identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit 1` recognise some common conductors and insulators, and associate metals with being good conductors.