Richard Lee Science Progression EYFS – YR

	EYFS Development Matters	Year 1 National Curriculum Programmes of Study	Year 2 National Curriculum Programmes of Study	Year 3 National Curriculum Programmes of Study	Year 4 National Curriculum Programmes of Study	Year 5 National Curriculum Programmes of Study	Year 6 National Curriculum Programmes of Study
Animals, including humans **BIOLOGY**	Animals Describe what they see, hear and feel whilst outside. - Name and describe some plants and animals children are likely to see. Example: Domestic animals (pets, farm) and Non-domestic (wild animals) Nutrition Overall heath including toothbrushing Narrate your own decisions about healthy foods, highlighting the importance of eating plenty of fruits and vegetables. Humans Body parts with links to PSHE	- identify and name a variety of common animals including fish, amphibians, reptiles, birds, and mammals, **Invertebrates** - 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	- 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) - describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat - identify that human and some other animals have skeletons and muscles for support, protection, and movement	- describe the simple functions of the basic parts of the digestive system in humans - 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	- describe the changes as humans develop to old age	- identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood - recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function - describe the ways in which nutrients and water are transported within animals, including humans

	<u>Senses</u> Describe what they see, hear and feel whilst outside. Explore the natural world around them. - Encourage interactions with the outdoors to foster curiosity and give children freedom to touch, small and hear the natural world around them during hands-on experiences.						
Living things and their habitats **BIOLOGY**	Explore the natural world around them. - After close observation, draw pictures of the natural world, including animals and plants. Understand the effect of changing seasons on the natural world around them. - Throughout the year, take children outside to observe the natural world and encourage		- 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		- 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	- describe the differences in the life cycles of a mammal, an amphibian, an insect, and a bird - describe the life process of reproduction in some plants and animals	- describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants, and animals - give reasons for classifying plants and animals based on specific characteristics

	children to observe how animals behave differently as the seasons change (hibernation).		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				
Evolution and inheritance **BIOLOGY**	Talk about members of their immediate family and community.	- Identify how humans resemble their parents in many features. (Milestone 1)			- Identify how plants and animals, including humans, resemble their parents in many features. - Recognise that living things have changed over time and fossils provide information about living things that inhabited the Earth millions of years ago. - Identify how animals and plants are suited to and adapt to their environment in different ways. (Milestone 2)		- recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago - recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents - identify how animals and plants are adapted to suit their environment

							in different ways and that adaptation may lead to evolution
Plants **BIOLOGY**	Explore the natural world around them. - After close observation (growing plants from seed), draw pictures of the natural world, including animals and plants. Describe what they see, hear and feel whilst outside. - Name and describe some plants and animals children are likely to see, encouraging children to recognise familiar plants and animals whilst outside.	- 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		- Relate knowledge of plant studies of evolution and inheritance. - Relate knowledge of plants to studies of all living things. (Milestone 3)	
Materials, Rocks, and	Explore the natural world around them.	- distinguish between an object and the material	- identify and compare the suitability of a	- compare and group together different kinds of	- compare and group materials together,	- compare and group together everyday materials	

states of matter **CHEMISTRY**	- Observe and interact with natural processes, such as ice melting	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 based on their simple physical properties	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 based on 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 - Relate the simple physical properties of some rock to their formation (Igneous or sedimentary)	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 condensation in the water cycle and associate the rate of evaporation with temperature	based on their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets - know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution - use knowledge of solids, liquids, and gases to decide how mixtures might be separated, including through filtering, sieving, and evaporating - give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic - demonstrate that dissolving, mixing and changes of	

						- state are reversible changes - explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda	
Forces and magnets **PHYSICS**	Explore the natural world around them. - Sinking and floating - a magnet attracting an object	- Notice and describe how things move, using simple comparisons such as faster and slower - Compare how different things move (Milestone 1)		- compare how things move on different surfaces - notice that some forces need contact between 2 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 based on whether they are attracted to a magnet, and identify some		- describe magnets as having 2 poles - predict whether 2 magnets will attract or repel each other, depending on which poles are facing - explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object - identify the effects of air resistance, water resistance and friction, that act between moving surfaces	

				magnetic materials - describe magnets as having 2 poles - predict whether 2 magnets will attract or repel each other, depending on which poles are facing		- Describe why moving objects that are not driven tend to slow down. - Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, leavers, springs (D&T link) - recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect (D&T link)	
Electricity **PHYSICS**	Keeping yourself safe in the environment including the use of electrical appliances.		- Identify common appliances that run on electricity. - Construct a simple series electrical circuit. (Milestone 1)		- 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		- associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit - compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the

					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 - recognise some common conductors and insulators, and associate metals with being good conductors		on/off position of switches - use recognised symbols when representing a simple circuit in a diagram
Sound **PHYSICS**	Explore the natural world around them. - Encourage interactions with the outdoors to foster curiosity and give children freedom to hear the natural world around them during hands-on experiences. (Use your hearing to explore the seasons - birds) Understand how to listen carefully and why listening is important.	- Observe and name a variety of sound, noticing that we hear with our ears. (Milestone 1)			- identify how sounds are made, associating some of them with something vibrating - 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 **(Moved from Y4 to Y6)**
Light	Explore the natural world around them.		- Observe and name a variety of sources of light,	- recognise that they need light in order to see			- recognise that light appears to

PHYSICS	- an object casting a shadow - light travelling through transparent material		including electric lights, flames and the sun, explaining that we see things because light travels from them to our eyes. (Milestone 1)	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			travel in straight lines - use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye - explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes - use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them
Earth and Space **PHYSICS**	**Seasonal Changes** Understand the effect of changing seasons on the natural world around them. - Provide opportunities for children to note and record the weather. Select	**Seasonal Changes** - observe changes across the 4 seasons - observe and describe weather associated with the seasons and how day length varies		- describe the movement of the Earth relative to the sun in the solar system. - describe the movement of the moon relative to the earth. (Milestone 2)		- describe the movement of the Earth and other planets relative to the sun in the solar system - describe the movement of the moon relative to the Earth - describe the sun, Earth, and moon	

	texts to share with the children about the changing seasons. - Guide children's understanding by draw children's attention to the weather and seasonal features. (signs of the season such as brown crunchy leaves in Autumn, birds singing in Spring)	- Observe the apparent movement of the sun during the day. (Milestone 1)				- as approximately spherical bodies - use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky	

Medium Term Plan.

To include Milestone 1/2/3 for each strand within the areas of science.

PDM – Week 3??

- Additional content
- Recap via physics, chemistry, biology (create icons)
- Hinge