St Ignatius Progression of knowledge and skills in Science 2021-2022

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	Harvest time Seasons Summer days turn into autumn days	Autumn time Different animals live in different countries	Winter time Contrasting environments	Minibeasts and Spring time seasons	Growth and change Different fruit and vegetables grow in different countries	Underwater animals Summer time Oceans
	Explore the natural world around them, making observations and drawing pictures of animals and plants to explore Harvest time. Use our outdoor learning to explore our natural world around us and the seasons of the year Talk about and discover Summer days turning into Autumn days.	Explore the natural world around them, making observations and drawing pictures of animals and plants to explore Autumn time. Use our outdoor learning to explore our natural world around us and the seasons of the year. Talk about our natural world around use when exploring Avenham park. Know that different animals live in different countries. Talk about and discover changes to our environment in Autumn.	Explore the natural world around them, making observations and drawing pictures of animals and plants to explore Winter time. Use our outdoor learning to explore our natural world around us and the seasons of the year. Talk about the similarities and differences between contrasting environments in our world. Know that different animals live in different countries. Talk about and discover winter time. Explore and discuss snow and ice and how Polar bears keep warm.	Explore the natural world around them, making observations and drawing pictures of animals and plants to explore minibeasts and Spring time. Use our outdoor learning to explore our natural world around us and the seasons of the year. Talk about and discover Winter turning into Spring time.	Explore the natural world around them, making observations and drawing pictures of animals and plants to explore growth and change. Use our outdoor learning to explore our natural world around us and the seasons of the year. Know that different fruits and vegetables grow in different countries. Talk about and discover changes to our environment in Spring. Engage in planting and caring for flowers, fruits and vegetables. Explore the changes of a caterpillar to a butterfly and other creatures.	Explore the natural world around them, making observations and drawing pictures of animals and plants to explore under water animals and Summer time Use our outdoor learning to explore our natural world around us and the seasons of the year. Find out about the oceans in our world. Talk about and discover Simmer time. Talk about rain and where it comes from.

Year 1	Animals, including humans	Scientists and inventors	Plants and nature detectives	Seasons and weather	Human body	Materials
	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)	Develop curiosity and understanding of how science is linked with real life	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 which plants- link with our children's environments and experiences	observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies	identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	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
Year 2	Materials	Materials	Animals and their habitats- local/microhabitats	Animals and their habitats- world habitats	Plants-growth and survival	Animals- growth and survival
	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	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	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	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	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	compare the differences between things that are living, dead, and things that have never been alive notice that animals, including humans, have offspring which grow into adults find out about and describe the basic

	can be changed by squashing, bending, twisting and stretching	can be changed by squashing, bending, twisting and stretching	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	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		needs of animals, including humans, for survival (water, food an describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene and air)
Year 3	Light, shadows and reflections	Nutrition, diet, movement, and the human skeleton	Rocks and fossils	Forces and magnets	Plants: life cycles	Plants: functions, parts of, growth
	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	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	compare and group together different kinds of rocks on the basis of their appearance and simple physical properties	compare how things move on different surfaces notice that some forces need contact between 2 objects, but magnetic	explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal	identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers

	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	identify that humans and some other animals have skeletons and muscles for support, protection and movement	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	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 2 poles predict whether 2 magnets will attract or repel each other, depending on which poles are facing		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
Year 4	Electricity	Sound	States of matter	Teeth and digestion	Habitats	Habitats
	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 how sounds are made, associating some of them with something vibrating recognise that vibrations from sounds travel through a medium to the ear	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	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	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 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

	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 recognise some common conductors and insulators, and associate metals with being good conductors	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	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	construct and interpret a variety of food chains, identifying producers, predators and prey	recognise that environments can change and that this can sometimes pose dangers to living things	recognise that environments can change and that this can sometimes pose dangers to living things
Year 5	Material properties and fair testing	Reversible and irreversible changes	Earth and Space	Forces and falling objects	Growth and development: life cycles of animals	Life cycles of plants
	compare and group together everyday materials on the basis of 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	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 as	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,	describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird describe the life process of reproduction in different animals	describe the life process of reproduction in different plants

	give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic	might be separated, including through filtering, sieving and evaporating 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	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	that act between moving surfaces recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect		
Year 6	Evolution and inheritance Adaptation	Classification including subdivisions for vertebrates and invertebrates	The circulatory system	Healthy living	Light	Electricity
	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	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	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 human	recognise that light appears to 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	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

	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	give reasons for classifying plants and animals based on specific characteristics			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	loudness of buzzers and the on/off position of switches use recognised symbols when representing a simple circuit in a diagram