Read St John's CE Science Knowledge and Skills Progression Map

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants	• Observing changes over time. Understanding growth and decay.	• 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 (at least: flower, leaf, root, stem, trunk, seed, branch and petal).	• 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 (and how changing these affects the plant).	• Identify, locate 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.	• Locate plants and animals in different habitats throughout the year. • 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 life process of reproduction in plants. • Name, locate and describe the functions of the main parts of reproductive system of plants (stigma, stamen, petal, sepal, pollen, ovary).	• Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. • Classification of plants and animals intheir suited habitats.
Of plants animls andAnimals, including humans	• Exploring different types of animals through small word play, e.g. farm, under the sea, zoo.	• Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. • Identify and name a variety of common animals including some fish, some amphibians, some reptiles, some birds and some mammals. • Identify and name a variety of common animals that are carnivores, herbivores and omnivores (i.e. according to what they eat). • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, and including pets).	• Notice that animals have offspring which grow into adults. • Find out about and describe the basic needs of animals for survival (water, food and air). • Find out about and describe the basic needs of 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.	• An adequate and varied diet is beneficial to health (along with a good supply of air and clean water). • Regular and varied exercise *from a variety of different activities* is beneficial to health (focus on *energy in versus energy out*. Include information on making informed choices). • Identify that humans and some other animals have skeletons and muscles for support, protection and movement. • Identify animals (vertebrates) which have a skeleton which supports their body, aids movement & protects vital organs (e.g. name and locate skull, backbone, ribs, bones for movement/limbs, pelvis and	• 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 *(NB Link with types of teeth and eating in this unit but this concept could be developed further in the yr4 Environment / habitats unit).*	• 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 (in the long term and short term). • Describe the ways in which nutrients and water are transported within animals, including humans.

		• Group together animals according to their different features. • Recognise similarities between animals: Structure: head, body, way of moving, senses, body covering, tail.		be able to name some of the vital organs protected).			
Environment: Living things & their Habitats	• Exploring where different animals live through small word play.		• 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 micro-habitats. • 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. • Observe living things in their habitats during different seasonal changes.		• 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. • Name, locate and describe the functions of the main parts of reproductive system of plants (stigma, stamen, petal, sepal, pollen, ovary).	• 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. • 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.
Material properties	• Identifying basic everyday materials. E.g. glass, wood, plastic, metal, paper, wool.	• 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, rock, brick, paper and cardboard. • 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, water, 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	• 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		• 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. • Give reasons, based on evidence from comparative and fair	

		• Compare and group together a variety of everyday materials on the basis of their simple physical properties.	stretching (applying a force).			tests, for the particular uses of everyday materials, including metals, wood and plastic (advantages and disadvantages).	
Material properties & changes	• Beginning to understand the process of where materials come from and how they are changed to create a product. E.g. observing trees being made into paper.				• 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 condensation in the water cycle and associate the rate of evaporation with temperature.	• 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. • Demonstrate that dissolving, mixing and changes of state are reversible changes. • Recognise that dissolving is a reversible change and recognise everyday situations where dissolving occurs. • 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 (producing a gas / fizzing).	
Electricity	• Exploring technology and learning how to manipulate toys with mechanical parts.				• 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.		•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

					• 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 (at least: cells, wires, switches, bulbs, buzzers and motors) when representing a simple circuit in a diagram. • Use/interpret circuit
Sound	• Using different types of media players. E.g. tape, cd, YouTube. Exploring changing sounds through making instruments and objects in the environment.				**Vibrations** • 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 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. **Pitch** • Find patterns between the pitch of a sound and features of the object that produced it. **Muffling/blocking sounds** • Recognise that vibrations from sounds travel through a medium to the ear.		
Forces	• Using magnets and discovering magnetic objects in play.			• 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.		• 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 (causing things to slow down) • Recognise that some mechanisms, including	

				• Describe magnets as having two poles (like and unlike poles). • Predict whether two magnets will attract or repel each other, depending on which poles are facing.		levers, pulleys and gears, allow a smaller force to have a greater effect. • There are different types of forces (push, pull, friction, air resistance, water resistance, magnetic forces, gravity) which have different effects on objects	
Light & Astronomy	• Observations of weather, including weather diaries. Observing seasonal changes over time.	• Observe and describe changes across the four seasons. • Observe and describe weather associated with the seasons and how day length and temperature varies.		• Notice that light is reflected from surfaces. • Recognise that shadows are formed when the light from a light source is blocked by a solid object. • Find patterns in the way that the size of shadows can change.		• Describe the movement of the Earth, and other planets, relative to the Sun and each other in the solar system. • Describe the movement of the Moon relative to the Earth. • Describe Sun/Earth/Moon as approximately spherical bodies. • Use the idea of the Earth's rotation to explain day and night. • Use the Earth's movement in space to explain the apparent movement of the sun across the sky.	• 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. • Explain that we see things because the light that travels from light sources to our eyes or from light sources to objects and then to our eyes (and represent this in simple diagrammatic form). • Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

NB. Please see KLIPs for more detail.