CHERRY TREE CURRICULUM OVERVIEW

CHERRY TREE PRIMARY SCHOOL

Science

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
The foundation of Science learning in EYFS	Examples of some activities that can be seen across the year in EYFS are: • Chocolate melting to create Easter nests • Watching plants grow all year round • Planting beans – linked to story Jack and the Beanstalk • Welly walks to see changes to our environment • Science experiments – Mentos, Skittles • Watching chicks hatch • Observing the lifecycle of a butterfly • Talking about our senses e.g. taste testing food, using binoculars to go for a walk					
Year 1	**WORKING SCIENTIFICALLY SKILLS.** Recap prior learning. **What does working scientifically mean?**	**ANIMALS INCLUDING HUMANS - SENSES** Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. **What are the five human senses?**	**SEASONAL CHANGE - SEASONS & WEATHER** Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. **What is the weather like in Watford and in an African town?**	**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. **What materials were used to build castles and weapons and why?**	**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. **How do plants and trees change over time?**	**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). **How can we protect the oceans?**
Year 2	**HUMANS & ANIMALS** Notice that animals, including humans, have offspring which grow into adults Find out about and describe the basic needs of animals,	**WEATHER** Name and describe different weather types, including those associated with the four seasons. Construct simple weather	**LIVING THINGS AND THEIR HABITAT -** **ANIMALS IN PAKISTAN** 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	**USES 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.	**PLANTS** Observe and describe how seeds and bulbs grow into mature plants Find out and describe how plants need water, light	**ANIMAL CONSERVATION** Explore and compare the differences between things that are living, dead, and things that have never been alive

	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. **How do I keep healthy?**	instruments to gather and record weather data. Explain what a weather forecast is, why they are used and their importance. Investigate different types of extreme weather and the impact this has on plants, animals and humans. **How does the weather impact our lives?**	kinds of animals and plants, and how they depend on each other. **How do animals adapt to their habitats?**	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. **How do we use everyday materials?**	and a suitable temperature to grow and stay healthy . **How do plants grow?**	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. **How can we protect micro-habitats?**
Year 3	**ANIMALS INCLUDING HUMANS - NUTRITION & BONES** 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 humans and some other animals have skeletons and muscles for support, protection and movement. **How does my body work?**	**ROCKS** 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. **What can we discover about the past from fossils?**	**FORCES & MAGNETS** 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. **How do magnets attract or repel?**	**SUSTAINABILITY & CARING FOR THE ENVIRONMENT** Explore what we mean by sustainability and look at how we can use this knowledge to take more responsibility and care for our environment. **How can we begin to take care of the world around us?**	**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. **How are the Northern Lights formed?**	**PLANTS** 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. **How important is the part bees play in pollination?**
Year 4	**SOUND** 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.	**ANIMALS INCLUDING HUMANS - DIGESTION AND TEETH** 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. **FOOD CHAINS**	**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, and measure or research the temperature at which this happens in degrees Celsius (°C).	**CLIMATE SCIENCE & SUSTAINABILITY** Investigate what climate change is and the impacts of it. **How does climate change impact our lives?**	**ELECTRICITY** Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying & 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	**LIVING THINGS & THEIR HABITATS** 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

	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. **What is the science of sound?**	Construct and interpret a variety of food chains, identifying producers, predators and prey. **How do I look after my health and teeth?**	Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature . **How does water change form?**		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. **How do megacities generate enough electricity?**	change and that this can sometimes pose dangers to living things. **How are habitats being affected by human activity?**
Year 5	**ANIMALS INCL. HUMANS - HUMAN LIFE CYCLES** Describe the changes as humans develop to old age. **How am I similar or different to members of my family?**	**FORCES** Identify the effects of air resistance, water resistance and friction, that act between moving surfaces. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. **What did the Vikings understand about forces and how good were they as engineers?**	**EARTH & SPACE** 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 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. Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. **What is the relationship between the Earth and the Moon?**	**PROPERTIES & CHANGES IN MATERIALS** 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 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.	**LIVING THINGS AND THEIR HABITATS - LIFE CYCLES OF RAINFOREST PLANTS** Describe the life process of reproduction in some plants. **How do different plants survive in the rainforest?**	**LIVING THINGS AND THEIR HABITATS - LIFE CYCLES OF RAINFOREST ANIMALS** Describe the life process of reproduction in some animals. Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. **How do different animals survive in the rainforest?**

				How are different materials used in sculpture?		
Year 6	**ANIMALS INCLUDING HUMANS - THE HUMAN BODY** 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. **How much can we control our own health?**	**ELECTRICITY - INVENTION** 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 on/off position of switches. Use recognised symbols when representing a simple circuit in a diagram. **How has the invention of electricity improved life?**	**LIGHT** 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 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. **How does light save lives?**	**LIVING THINGS AND THEIR HABITATS - CLASSIFICATION** Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics. **How can we classify living things in our school environment?**	**EVOLUTION & INHERITANCE** 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. **Where do we find evidence of life from the past in the environment?**	**SUSTAINABILITY** Scientific inventions – Recognise that many significant inventions have had a negative impact on the environment. **How could major scientific inventions from the last century be dealt with differently today – with the environment in mind?** e.g., internet, computers, smartphones, airplanes, television and the automobile.