



Science Long Term Plan		
EYFS-Willow Year A Year B		
Autumn	Spring	Summer
<p><u>Plants/Seasons-Biology</u></p> <p>To talk about the weather and to say what they can see, hear and feel.- Summer into Autumn, Autumn into Winter in their play.</p> <p>To know the changes to the environment due to the change in the season - Summer into Autumn, Autumn into Winter in their play.</p> <p>Planting seasonal plants.- bulbs, winter bedding plants</p> <p>Examine change over time, for example, change that may be reversed, e.g. melting ice. And to explore different materials.</p>	<p><u>Seasonal Changes</u></p> <p>To know the changes to the environment due to the change in the season - winter into spring in their play.</p> <p><i>To talk about the weather and to say what they can see, hear and feel.- - winter into spring in their play.</i></p> <p>To draw and take note of the changes in seasonal plants during the spring..- bulbs, winter bedding plants.</p> <p>To name some seasonal plants in their environment and animals local to the area.</p> <p>To plant vegetables eg potatoes and care for them to harvest in the summer.</p>	<p><u>Animals and Plants</u></p> <p>To make observations of plants and animals and explain why some things occur, and talk about changes.</p> <p>To know about similarities and differences in relation to living things including insects such as ladybirds, butterflies, bees</p> <p>To explore the natural world around them, making observations and drawing pictures of plants and animals.</p> <p>To know the changes to the environment due to the change in the season - Spring into Summer in their play.</p> <p><i>To talk about the weather and to say what they can see, hear and feel.- - Spring into Summer in their play.</i></p> <p>To care for seasonal vegetables and harvest in the summer. For example, planting and taking care of flower and vegetable beds or organising equipment outdoors</p>
Year 1 and 2- Beech		
Autumn Animals including	Spring Everyday	Summer Plants/Seasonal Change

Humans-Biology	Materials-Chemistry	-Biology
<p><u>Animals including Humans - Biology</u></p> <p>To identify, name, draw and label the basic parts of the human body.</p> <p>To be able to name the five senses and the body part associated with each sense.</p> <p>To know the common names of some fish, amphibians, reptiles, birds and mammals.</p> <p>To describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, and mammals, including pets)</p> <p>To identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p>	<p><u>Everyday Materials - Chemistry</u></p> <p>To know that all objects are made of one or more materials.</p> <p>To be able to name some objects that are made of wood, plastic, glass, metal and rock.</p> <p>To be able to describe materials using their properties e.g. shiny, stretchy, rough etc.</p> <p>To compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>	<p><u>Plants - Biology</u></p> <p>To know and name the petals, stem, leaves and roots of a plant.</p> <p>To know and name the roots, trunk, branches and leaves of a tree.</p> <p><u>Seasonal Change (Weather)</u></p> <p>To know the days are shorter in winter and longer in summer.</p> <p>To sequence the four seasons and explain the changes that occur e.g. temperature, changes to deciduous trees, weather patterns.</p>
<p><u>Autumn Animals including Humans-Biology</u></p>	<p><u>Spring Animals Including Humans-Biology</u></p>	<p><u>Autumn Everyday Materials-Chemistry</u></p>
<p><u>Animals including Humans - Biology</u></p> <p>To know the basic stages in a life cycle for animals (including humans) e.g. egg, chick, chicken; caterpillar, pupa, butterfly; baby, toddler, child, teenager, adult</p> <p>To know why exercise is important for humans.</p> <p>To find out and describe the basic needs of animals, including humans, for survival (water, food and air).</p>	<p><u>Animals Including Humans:</u></p> <p>Identify and name a variety of common animals including fish.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals -fish, amphibians, reptiles, birds and mammals, including pets.</p> <p>Identify, name, draw and label the basic parts of the</p>	<p><u>Everyday Materials:</u></p> <p>Distinguish between an object and the material from which it is made.</p> <p>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.</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>

<p>To know the 5 main food groups that make up a balanced diet and identify food that fits into each of these groups.</p> <p>To describe the importance of eating the right amounts of different types of foods and hygiene. (NB: PSHE link)</p>	<p>human body and say which part of the body is associated with each sense.</p> <p><u>Seasonal Change:</u> Observe changes across the four seasons.</p> <p>Observe and describe weather associated with the seasons and how the day length varies.</p>	<p><u>Seasonal Change:</u> Observe changes across the four seasons. Observe and describe weather associated with the seasons and how the day length varies.</p>
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Year 3 and 4-Sycamore

<p>Autumn-Rocks Chemistry</p>	<p>Spring-Forces and Magnets-Physics</p>	<p>Summer-Animals/Human movement-Biology Light-Physics.</p>
<p><u>Rocks - Chemistry</u></p> <p>To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties e.g. size, hard or soft; density</p> <p>To know that soils are made up of pieces of ground-down rock which may be mixed with plant and animal material (organic matter).</p> <p>To know that some rocks contain fossils which were formed millions of years ago.</p> <p>To describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p><u>Animals including Humans Nutrition</u></p> <p>To know that animals, including humans need the</p>	<p><u>Forces and Magnets:</u></p> <p>To compare how things move on different surfaces.</p> <p>To be able to explain how the texture of a surface affects the movement of an object - friction.</p> <p>To be able to identify forces that need contact and know that magnetic forces can act at a distance.</p> <p>To 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.</p> <p>To describe magnets as having two poles. To predict whether two magnets will attract or repel</p>	<p><u>Animals including Humans Movement</u></p> <p>To be able to name some bones that make up their skeleton giving examples that support, help them move or provide protection.</p> <p>To be able to describe how muscles and joints help them to move.</p> <p><u>Light:</u></p> <p>To be able to explain that we see objects because our eyes can sense light.</p> <p>To be able to identify some sources of light.</p> <p>To be able to identify some reflective and non-reflective materials.</p> <p>To know that we can't see anything in complete darkness.</p>

<p>right types and amount of nutrition and that they cannot make their own food.</p> <p>To know that food contains a range of different nutrients that are needed by the body to stay healthy - carbohydrates including sugars, protein, vitamins, minerals, fibre, fat, sugars, water.</p> <p>To be able to name the nutrients found in food.</p>	<p>each other, depending on which poles are facing.</p>	<p>To be able to explain the terms transparent, translucent and opaque.</p> <p>To be able to explain that shadows are formed on a surface when an opaque or translucent object is between a light source and the surface and blocks some of the light.</p> <p>To recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p>
<p style="text-align: center;">Autumn <u>Animals including Humans - Biology</u></p>	<p style="text-align: center;">Spring <u>States of Matter - Chemistry</u></p>	<p style="text-align: center;">Summer <u>Sounds-Physics</u></p>
<p><u>Animals including Humans - Biology</u></p> <p>To be able to describe the simple functions and sequence the main parts of the digestive system.</p> <p>To be able to name and identify the function of human teeth - incisors for cutting, canines for tearing, molars and premolars for grinding (chewing).</p> <p>To be able to name producers, predators and prey within a habitat.</p> <p>To be able to classify living things into producers, consumers, predators and prey according to their place in the food chain.</p> <p>To be able to independently construct a food chain.</p>	<p><u>States of Matter - Chemistry</u></p> <p>To compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>To know that melting is a state change from solid to liquid.</p> <p>To know that freezing is a state change from liquid to solid.</p> <p>To observe that some materials change state when they are heated or cooled (melting/freezing)</p> <p>To measure or research the temperature at which melting/freezing happens in degrees Celsius (°C)</p> <p>To identify the part played by evaporation and</p>	<p><u>Sound - Physics</u></p> <p>To know that a sound source vibrates to produce sound waves which travel to our ears.</p> <p>To be able to explain how different mediums such as air or water or wood can carry sound.</p> <p>To know that pitch is the highness or lowness of a sound.</p> <p>To find patterns between the pitch of a sound and features of the object that produced it.</p> <p>To know that the loudness (volume) of the sound depends on the amount of energy of vibrations.</p>

<p><u>Electricity - Physics</u></p> <p>To be able to identify household devices and appliances that run on electricity.</p> <p>To be able to build an electrical circuit consisting of a cell or battery connected to a component using wires.</p> <p>To know the names of some components in a circuit e.g. cells, wires, bulbs, switches and buzzers.</p> <p>To know that if there is a break in the circuit or a loose connection the component will not work.</p> <p>To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>To know the names of some metals that are conductors.</p> <p>To know the names of some materials that are insulators.</p>	<p>condensation in the water cycle.</p> <p>To associate the rate of evaporation with temperature</p>	<p>To know that sounds decrease in volume the further they have to travel.</p>
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Year 5 and 6-Oak

<p><u>Autumn</u> <u>Animals/Humans-Biology</u></p>	<p><u>Spring Changes of</u> <u>Materials-Chemistry</u></p>	<p><u>Summer</u> <u>Biology/Physics</u></p>
<p><u>Animals including Humans - Biology</u></p> <p>To be able to name, label and explain the functions of the main parts of the human circulatory system.</p> <p>To know that nutrients, water and oxygen are transported in the blood to the muscles and other parts of the body where they are needed.</p>	<p><u>Changes of Materials-Chemistry</u></p> <p>To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>To use Learning of solids, liquids and gases to decide how mixtures might be</p>	<p><u>Animals including Humans</u></p> <p>To describe the changes as humans develop to old age</p> <p><u>Earth and Space</u></p> <p>To describe the movement of the Earth, and other planets, relative to the Sun in the solar system</p>

<p>To know that diet, exercise, drugs and lifestyle have an impact on the way our bodies function e.g. heart and lungs, health (diabetes, vitamin deficiency) and fitness.</p> <p><u>Electricity - Physics</u></p> <p>To be able to explain how adding more cells to a complete circuit will affect other components in a circuit.</p> <p>To 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</p> <p>To know and use the recognised symbols to draw a circuit diagram.</p>	<p>separated, including through filtering, sieving and evaporating</p> <p>demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>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.</p> <p><u>Living things and their habitats</u></p> <p>To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>describe the life process of reproduction in some plants and animals.</p> <p>Scientist Jane Goodall</p>	<p>To describe the movement of the Moon relative to the Earth</p> <p>To describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>To use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p>
<p><u>Autumn</u> <u>Animals including Humans - Biology</u></p>	<p><u>Spring</u> <u>Living things and their habitats - Biology</u></p>	<p><u>Summer</u> <u>Light-Physics</u></p>
<p><u>Forces - Physics</u></p> <p>To be able to explain that a force causes an object to start moving, stop moving, speed up, slow down or change direction.</p> <p>To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p>	<p><u>Living things and their habitats - Biology</u></p> <p>To know that plants and animals are two main groups but there are other living things that do not fit into these groups e.g. micro-organisms such as bacteria and yeast, and toadstools and mushrooms.</p> <p>To be able to divide animals into two main groups - those that have backbones</p>	<p><u>Light - Physics</u></p> <p>To be able to explain how we can see light sources shining directly into our eyes but to see other objects, light from a source must first shine on the object and then be reflected into our eyes.</p> <p>To know that light appears to travel in straight lines.</p> <p>To explain that we see things because light travels from</p>

<p>To be able to explain air resistance, water resistance and friction are contact forces that act between moving surfaces and give examples of friction, water resistance and air resistance.</p> <p>To be able to identify when it is beneficial to have high or low friction, water resistance and air resistance.</p> <p>To be able to explain how pulleys, levers and gears allow a smaller force to have a greater effect (mechanisms).</p>	<p>(vertebrates) and those that do not (invertebrates).</p> <p>To be able to give examples of animals in the five vertebrate groups and some of the invertebrate groups.</p> <p>To know the key characteristics of the five vertebrate groups and some invertebrate groups.</p> <p>To be able to give examples of flowering and non-flowering plants.</p>	<p>light sources to our eyes or from light sources to objects and then to our eyes.</p> <p>To be able to explain that objects that block light (are not fully transparent) will cause shadows and because light travels in straight lines the shape of the shadow will be the same as the outline shape of the object.</p>
<p><u>Properties and Changes of Materials- Chemistry</u></p> <p>To 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.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p> <p>To be able to identify materials with different uses depending on their properties and state (liquid, solid, gas)</p>	<p><u>Evolution and Inheritance - Biology</u></p> <p>To know that all living things have offspring of the same kind and features in the offspring are inherited from the parents but the offspring are not identical to their parents and vary from each other.</p> <p>To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p> <p>To be able to give examples of how plants and animals are suited to an environment.</p> <p>To be able to give examples of how an animal or plant has evolved over time e.g. penguin, peppered moth.</p> <p>To be able to use fossils as evidence of what lived on the Earth millions of year ago.</p>	

Working Scientifically:

- Asking simple questions.
- Observing using simple equipment.
- Performing simple tests.
- Identify and classify.
- Using Observations and ideas to suggest answers to questions.
- Gathering and recording data to help in answering questions.