	Year	EYFS		Opportunities in provision to work scientifically
	Science in the Early Years is covered in Understanding of the World. It is introduced through both direct teaching and indirectly through continual provision. Provision offers opportunities for children to explore, ask questions, solve problems, observe, predict, think critically, make decisions and talk about the world around them. Adults facilitate progression in learning by planning appropriate activities and timely interactions eg "I wonder what would happen if", asking enquiring questions, working alongside children to solve a problem together and modelling skills and scientific language.			

### The Natural World


Explore the natural world around them, making observations and drawing pictures of animals and plants Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. Understand the effect of the changing seasons on the natural world around them

**These are examples of provision and does not cover everything that is provided in our Early Years classrooms as a number of areas are driven by children's interests and how children develop their learning through exploration and enquiry with the support of the adults around them.**

Provision	Opportunities for exploration and enquiry	Links to science curriculum
sand/water	Collect information through senses how liquids and solids behave under different conditions ( eg adding other things to the water or sand to cause a change) sieving( filtration) dissolving floating and sinking movement How water pushes up when try to push boat underneath water	To understand animals and humans Forces Materials
Construction/ creative/ fine motor table	Properties of materials ( rigid, flexible, stable, fragile) Mixing paint, viscosity in liquids Exploring how things work	Materials Forces
Cooking/baking	Heating, cooling, melting, dissolving, mixing, changing, healthy eating	To investigate living things To understand animals and humans
Outdoor large play	Climbing frame Pushing and pulling Friction of different surfaces Weight Use of wheels	To understand animals and humans Force materials
Outdoor garden	Planting, growing, seasonal change, changing materials ( mud kitchen), mini beast hunts, looking at decay eg change in an apple core when left Exploring environment, comparing to other environments Observing and naming plants and animals Sound walks- distinguishing environmental sounds	Understanding plants Investigating living things Sound Earth, space and Seasonal change
Small world play	Animals Buildings Settings ( pond, beach, swamp, forest,space, field, sea etc) Vehicles ( magnetic attraction and repulsion with trains) Natural and man-made materials ( pebbles, cones,shells, bark etc) Using magnifying glasses, torches( can the light shine through the material?) Exploring how things work	Investigating living things Earth, space and Seasonal change Materials Force
Mid morning snack, lunchtime	Different types of food, healthy eating	To understand animals and humans
Role play	Seasonal clothes for children to chose to wear	Seasons


#### Role of adult:

- Encourage children to talk about what they see.
- Model observational and investigational skills. Ask out loud: "I wonder what will happen if...?"
- Plan and introduce new vocabulary, encouraging children to use it to discuss their findings and ideas.

	Year	EYFS	Topic	Plants
				<ul style="list-style-type: none"> <li>Identify different types of plants eg flower, tree, grass</li> <li>Identify similarities and differences in different leaves</li> <li>Identify similarities and differences in different seeds</li> <li>Explore how seeds and bulbs grow into plants</li> </ul>


Knowledge by the end of reception
<ul style="list-style-type: none"> <li>Know that a flowering plants consist of roots, stem, leaves and flowers,</li> <li>Know the concept of growth, change and decay</li> <li>Know ivy, daisy and a daffodil by sight</li> <li>Know a sycamore tree by sight</li> </ul>
Vocabulary
growth, evergreen, flower, plant, tree, roots, stem, leaf, trunk, same, similar, different, sort, language to describe colour, shape, comparative language of size.
Common misconceptions
<ul style="list-style-type: none"> <li>plants are flowering plants grown in pots with coloured petals and leaves and a stem</li> <li>trees are not plants</li> <li>all leaves are green</li> <li>all stems are green</li> <li>blossom is not a flower.</li> </ul>

Prior Learning	Future Learning
	<ul style="list-style-type: none"> <li>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Y1 - Plants)</li> <li>Identify and describe the basic structure of a variety of common flowering plants, including trees. (Y1 - Plants)</li> </ul>

	Year	EYFS	Topic	Animals including humans
	<ul style="list-style-type: none"> <li>To recognise and know the names of different animals (farm, pets, wild but can be found in a zoo, sea, insects etc)</li> <li>To know where these animals live</li> <li>To understand about what their body can do and know what contributes to a healthy body</li> </ul>			

Knowledge by the end of reception				
<ul style="list-style-type: none"> <li>To know that a pig is a farm animal, a rabbit can be a pet, an elephant is a wild animal and a whale is a sea creature, a ladybird is an insect</li> <li>To group animals according to features and their habitats.</li> <li>Must take care when observing and handling animals</li> <li>To know what factors contribute to a healthy lifestyle</li> </ul>				
Vocabulary				
growth, habitat, fish, bird, mammal, offspring, skeleton, same, similar, different, sort, language to describe colour, shape, comparative language of size, health, names of body parts, exercise, sleep, water, healthy, unhealthy, food, teeth				
Common misconceptions				
<ul style="list-style-type: none"> <li>only four-legged mammals, such as pets, are animals</li> <li>humans are not animals</li> <li>insects are not animals</li> <li>To be healthy cannot have any treats</li> </ul>				

Prior Learning	Future Learning
	<ul style="list-style-type: none"> <li>Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals, including humans)</li> <li>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (Y1 - Animals, including humans)</li> <li>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals including humans)</li> <li>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Y1 – Animals, including humans)</li> </ul>


	Year	EYFS	Topic	Everyday materials
	<ul style="list-style-type: none"> <li>Explore different materials</li> <li>To use talk to describe different everyday materials</li> <li>Group materials identifying similarities and differences</li> <li>Understand some important processes and changes in the natural world around them, including the changing states of matter.</li> </ul>			

Knowledge by the end of reception				
<ul style="list-style-type: none"> <li>To know an object is made from a type of material</li> <li>Know that materials can be hard, soft, strong, weak, absorbent, heavy, light, solid and runny, smooth and rough</li> <li>To know how to group materials according to own criteria</li> </ul>				
Vocabulary				
Object, material, wood, plastic, glass, metal, water, rock, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through				

### Common misconceptions

- Not being able to distinguish between object and material eg cup made of plastic, glass, pottery • only fabric is a material

Prior Learning	Future Learning
	<ul style="list-style-type: none"> <li>• Distinguish between an object and the material from which it is made. (Y1 - Everyday materials)</li> <li>• Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. (Y1 - Everyday materials)</li> <li>• Describe the simple physical properties of a variety of everyday materials. (Y1 - Everyday materials)</li> <li>• Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Y1 - Everyday materials)</li> <li>•</li> </ul>

	Year	EYFS	Topic	Seasonal Changes
		<ul style="list-style-type: none"> <li>• Talk about the weather</li> <li>• Know the names of the four seasons</li> <li>• Name some changes caused by seasons</li> </ul>		

### Knowledge by the end of reception

- To know a year is split into 4 seasons and the names of the seasons
- From own observations and books, be able to name changes caused by seasons eg know that the weather changes, hotter in the summer, colder in the winter

### Vocabulary

Autumn, Winter, Spring, Summer, grow, evergreen, flower, plant, tree, leaf, sun, wind, freeze, melt, ice, hibernate, migration, weather, same, similar, different, language to describe colour, shape, clothes.

### Common misconceptions

- it always snows in winter • it is always sunny in the summer • it can't be sunny in the winter

Prior Learning	Future Learning
	<ul style="list-style-type: none"> <li>• Observe changes across the four seasons. (Y1 - Seasonal changes)</li> </ul>