

What a scientist looks like in the EYFS 2

Characteristics of Effective Learning: **Playing and exploring** – children investigate and experience things and have a go; **Active learning** – children concentrate and keep trying if they encounter difficulties and enjoy achievements; **Creating and thinking critically** – children have and develop their own ideas, make links between ideas, and develop strategies for doing things. In addition, the prime area of learning **PSE, CL and PD** underpin and are an integral part of all areas of learning

Understanding the World Educational Programme: Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children’s personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society, such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children’s vocabulary will support later reading comprehension.

Intent: Science helps everyone to understand the world they live in. It is constantly changing our lives and it relates to things we see and do on a daily basis. At Orleton we offer the children a science curriculum that evokes curiosity, excitement and understanding about the world around them. We encourage our children to ask questions and then experiment to find out the answers to their questions. We understand the need for practical, hands on experiences, allowing the children time to explore and investigate. We want to teach our children to love discovering new things, and think of themselves as scientists as they begin to understand the natural world around them.

Themes	A1 - All About Me A2 – Healthy Me		Sp1 – Winter World Sp2 – The World Beyond		S1 – The Growing World S2 - Travelling ... the World	
Learning Overview	We will explore the natural world, commenting on seasonal changes and the weather. We will look what happens to trees and the weather during Autumn and Winter. We will use our senses during our exploration of the outdoor environment. We will go on an Autumnal walk. We will look at changes to chocolate when it melts.		We will look at the change of seasons and what happens to some plants and animals during Winter / Spring. We will explore the natural world, commenting on seasonal changes and the weather. We will look at different environments e.g. Arctic/Antarctica and the animals that live there. We will explore icy environments. We will learn about Earth, Space and be able to name some of the planets in our Solar System. We will talk about rockets and pushes. We will experience/explore Light and Dark. We will talk about gravity; forces, use push & pull toys We will plant bulbs and take care of our outside environment. We will look at changes to ice and a biscuit mixture when cooking.		We will plant seeds and observe growth and conditions needed for growth. We will look at the school grounds and local environment and see which animals/plants we can draw, observe and name. We will recognise some similarities and differences in how our environment looks now compared to the past year. We will also learn about some life cycles e.g humans, frogs. We will grow cress and then make egg & cress sandwiches. We will learn about some minibeasts and explore their habitats, including our Pond area. We will talk about dinosaurs being herbivores, carnivores and omnivores and enjoy a volcano experiment! We will look at what happens to the weather/climate during summer. We will explore materials and identify what materials would make the best boat; materials being waterproof or not waterproof and test our theories as well as identifying objects that float/sink and explain their reasons.	
Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Science Evidence in Floor Book We revisit knowledge and skills throughout the year	To explore the natural world around them. To describe what they see, hear and feel whilst outside. To change the calendar & weather board.	To understand what changes happen in Autumn and winter and note some differences. To know all 5 senses and explain what they are. To notice the changes that happen when chocolate melts.	To know that things can melt and freeze and understand how to make these changes occur. To find out about our Garden Birds and how to care for them. (link to RSPB Birdwatch) To observe and draw pictures of birds and plants e.g. Spring Daffodils	To understand what changes happen in Winter/Spring, discussing when and how things grow. To know that Earth is the planet that we live on. To understand how human activity can have a negative impact on the environment and what they can do to look after the natural world. To know why it is important to recycle and how this helps our planet earth. To observe changes when making biscuits (Mother’s Day).	To observe and draw pictures of animals and plants. To explain the lifecycle of a plant and one animal. To know how to care for growing plants To know about healthy foods that grow naturally.	To name and order the seasons. To explore the lives and diets of dinosaurs. To name 3 animals and their young To talk about similarities and differences between materials and changes they notice. To identify the best material that is waterproof and best for its purpose.

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				To explore and talk about different forces e.g. gravity, push and pull.		To give an explanation as to why something floats or sinks.
<p>Science Sticky Knowledge</p> <p>Knowledge children need to know by the end of every half-term</p>	<p>I know I need to respect and care for the natural environment and all living things.</p> <p>I know how to brush my teeth and keep myself healthy e.g. eating healthy food, exercise and sleep.</p> <p>I can observe the changes in our natural world, e.g. weather.</p>	<p>I know what the weather is like in Autumn.</p> <p>I can talk about what I can see, hear, and feel when I am outside.</p> <p>I know that the season is: Autumn / Winter / Spring / Summer</p>	<p>I know all 5 senses and can describe the world through using my senses.</p> <p>I know that ice melts when it gets warm.</p> <p>I know that water turns into ice when it freezes.</p> <p>I can recognise some environments that are different from the one in which I live e.g. Arctic and Antarctica</p> <p>I know that the weather is different in different parts of the world.</p>	<p>I know some foods that are healthy and not healthy (PSHE)</p>	<p>I can make observations and look closely at similarities and differences when growing plants, e.g. cress / lettuce / pumpkin / sunflowers</p> <p>know that a plant needs light, soil and water to grow.</p> <p>I know that plants die if they don't have enough water.</p> <p>I know the name of some insects.</p> <p>I know about a simple life cycles e.g. tadpoles to frogs, babies to adults.</p>	<p>I know the names of the four seasons.</p> <p>I know what some dinosaurs eat.</p> <p>I know that some materials float and some sink.</p> <p>I know that some materials are better suited to jobs than others.</p> <p>I know some similarities and differences in relation to materials</p>
Key vocabulary	senses, natural, changes Calendar weather environment	season, autumn, winter, rain, wind, cloudy, 5 Senses: hear, see, feel, touch, taste, melt	freeze, water ice, melt observe, spring, care, Garden birds,	healthy, force, gravity, melt, pressure, air force, thrust, cook/bake, changes, texture	habitat, plant, grow, change, spring, survive materials environment, animal lifecycle, habitat, survive, lifecycle,	autumn, winter, spring, summer, hot, sunny, care, scientist, dinosaurs, experiment materials, waterproof, float, sink environment
Our Curriculum Goal	To become an Exceptional Explorer who can show curiosity about the world around them , understand how to read and draw a simple map, understand some differences between times and places.					
ELG (End of the year only)	<ul style="list-style-type: none"> 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 some important processes and changes in the natural world around them, including the seasons and changing states of matter 					
During KS1, children will learn	<p>PLANTS</p> <p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>ANIMALS (INC HUMANS)</p> <p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</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 human body and say which part of the body is associated with each sense.</p> <p>EVERYDAY MATERIALS</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.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p>					

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Compare and group together a variety of everyday materials on the basis of their simple physical properties.

EYFS science knowledge and skills linking to year 1

Working scientifically	Plants	Animals (Including humans)	Everyday materials
<p>Comments and asks questions about aspects of their familiar world such as the natural world, making observations and drawing pictures of animals and plants.</p> <p>Talks about why things happen and how things work</p> <p>Looks closely at similarities, differences, patterns and change</p> <p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter</p> <p>Explore and talk about different forces I can feel – gravity, push and pull toys</p>	<p>know that a plant needs light, soil and water to grow.</p> <p>Know that plants die if they don't have enough water.</p> <p>Know that some food grows on trees and some comes from plants on and under the ground.</p>	<p>I know the name of some insects.</p> <p>I know that a caterpillar becomes a butterfly</p> <p>Identify which dinosaurs are meat or plant eaters</p>	<p>Know that some materials float and some sink.</p> <p>Know that some materials are more suited to jobs than others.</p> <p>Know some similarities and differences in relation to materials</p>

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Our science journey through the year

Overview

Science

-In Science, we look at the world around us. Scientists try to find out how and why things happen.

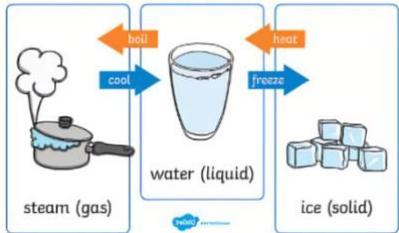
- Scientists learn about their subject by observing (looking at things) and experimenting (testing things).

Early Science learning is found in the following EYFS areas of learning:

- Understanding the World
- Expressive Arts and Design
- Physical Development



Changing State




To know that things can freeze and melt and understands how to make these changes occur.



To explore and talk about different forces e.g. gravity, push and pull

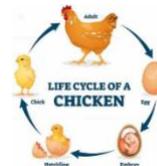


To talk about similarities and differences between materials and changes they notice.
To identify the best material that is waterproof and best for its purpose.
To give an explanation as to why something floats or sinks.



To describe what they see, hear and feel whilst outside.
To name the 5 senses

To know earth is the planet we live on.
To understand how human activity can have a negative impact on the environment and what they can do to look after the natural world.



To explain the lifecycle of a plant and one animal.

To name 3 animals and their young.

To understand what changes happen in Autumn and winter and note some differences.
To understand what changes happen in spring, discussing when and how things grow.
To name and order the seasons.

To know how to care for a growing plant




To know about healthy foods that grow naturally.

Key Vocabulary

- Scientist
- Experiment
- Earth
- Natural/Man-Made
- Season
- Animal
- Plant
- Environment
- Healthy
- Texture

Seasonal walks - look for changes, similarities, differences; use our magnifying glasses

Use magnets to explore different magnetic and non-magnetic objects

Animals and their habitats, what animals might live at the zoo, farm or in our garden?

Exploring different objects using senses that relate to different environments/seasons e.g pinecones, conkers, ice cubes, bark, rocks, pumpkins.

Life cycle of a frog - frog spawn / tadpoles in tank in classroom.

Discussions about what dinosaurs eat. Make links to animals and the food chain, link back to healthy eating, balanced diet & what we eat.

Exploring the change of properties; mud in the mud kitchen or sand in the sand tray. (Cause & effect)

Exploring change of materials when making Firework Sparklers & Easter chocolate nests - melting of chocolate and making/baking biscuit mixture for Mothering Sunday

Autumn senses walk

Floating and sinking of objects in the water tray

Exploring shadows, make shadows, shadow drawing on the playground

Planting Spring bulbs and plants, cress and Pumpkin seeds. Take care of our garden & Plant tubs.

Melting ice cubes & ice pieces, drawing & painting with ice and snow

Painting with water on pavements and watching it dry quickly in warmer weather.