What a scientist looks like in the EYFS

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 Much Birch 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 – Let's Discover… myself, autumn A2 – Stories and Celebrations**		**Sp1 – Transport Sp2 – Excellent Eggs**		**S1 – Changes S2 – In a land far away…**	
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 look at the change of seasons and what happens to some plants and animals during spring. We will investigate why and how vehicles move. We will learn about space and be able to name some of the planets. We will look at the schools grounds and local environment, observing and learning about the life-cycles of frogs. We will look at other life-cycles such as chickens, butterflies and dinosaurs which all come from eggs. We will talk about dinosaurs being herbivores, carnivores and omnivores.		We will recognise some similarities and differences in how our environment looks now compared to the past year. We will look at what happens to the weather/climate during spring to summer. We will look at plants identifying parts. We will explore materials and identify what materials would make the best boat. We will think about 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 on Tapestry Learning journals 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 understand what changes happen in Autumn and winter and note some differences.	To know all 5 senses and explain what they are. To explore and talk about different forces e.g. gravity, push and pull. To know earth is the planet we live on.	To understand what changes happen in spring, discussing when and how things grow. To observe and draw pictures of animals. To name 3 animals and their young To explain the lifecycle of one animal. To explore the lives and diets of dinosaurs.	To explain the life-cycle of a plant. To name the parts of a flower. 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 name and order the seasons. To talk about and explore changes in materials- freezing and melting. To understand how human activity can have a negative impact on the environment and what they can do to look after the natural world.
Science Sticky Knowledge Knowledge children need to know by the end	I know I need to respect and care for the natural environment and all living things.	I know what the weather is like in Autumn.	I know all 5 senses and can describe the world through using my senses.	I know the name of some insects. I know that a caterpillar becomes a butterfly. I know that a chick becomes a chicken.	I know that a plant needs light, soil and water to grow. I know that plants die if they don't have enough water. I know some foods that are healthy and not healthy (PSHE)	I know the names of the four seasons. I know that the weather is different in different parts of the world. I know the main changes that happen in Autumn,

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of every half-term				I know some dinosaurs used to eat other dinosaurs and others used to eat plants.	I know that some materials float and some sink. I know that some materials are better suited to jobs than others. I know some similarities and differences in relation to materials I know that food grows on trees and some comes from plants on and under the ground.	Winter, Spring and Summer. I know that my actions affect the world. I know that ice melts when it gets hot. I know that water turns into ice when it freezes.
Key vocabulary	senses, natural, changes	season, autumn, winter, rain, wind, cloudy	hear, see, feel, sense, force, gravity, pressure, air, thrust	habitat, grow, change, spring, survive, observe, animal, lifecycle	plant, healthy, materials, waterproof, float, sink	autumn, winter, spring, summer, hot, sunny, care, environment freeze, ice, melt,
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)**	• 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	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. ANIMALS (INC 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) Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. EVERYDAY MATRERIALS 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.					

EYFS science knowledge and skills linking to year 1			
Working scientifically	Plants	Animals (Including humans)	Everyday materials
Comments and asks questions about aspects of their familiar world such as the natural world, making observations and drawing pictures of animals and plants. Talks about why things happen and how things work Looks closely at similarities, differences, patterns and change Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter Explore and talk about different forces I can feel – gravity, push and pull toys	know that a plant needs light, soil and water to grow. Know that plants die if they don't have enough water. Know that some food grows on trees and some comes from plants on and under the ground.	I know the name of some insects. I know that a caterpillar becomes a butterfly Identify which dinosaurs are meat or plant eaters	Know that some materials float and some sink. Know that some materials are more suited to jobs than others. Know some similarities and differences in relation to materials

Our science journey through the year

What a scientist looks like in the EYFS

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





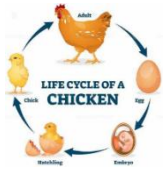
To describe what they see, hear and feel whilst outside.
To name the 5 senses

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.



Key Vocabulary

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



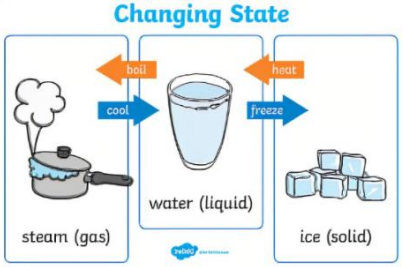


To explain the lifecycle of a plant and one animal.

To name 3 animals and their young.



To know about healthy foods that grow naturally.



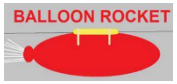


To know that things can freeze and melt and understands how to make these changes occur.

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 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.





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

Planting and caring for our herb garden.

Melting ice cubes, drawing with ice, painting snow

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

Making healthy fruit kebabs.

Using magnets to explore different magnetic and non-magnetic objects.

Autumn senses walk

Animals and their habitats. What animals might we see at the zoo? What animals might we see at the farm? What animals might we find in our garden?

Shadow drawing on the playground. Shadow puppet shows.

How sound travels through our class sound tubes.

Lifecycle of a butterfly – caterpillar experience.

Floating and sinking of objects in the water tray.

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

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