Science in EYFS

Our EYFS learning environment provides consistent opportunities for Science. The 'topic' focus for both nursery and Reception classes are led by the children's interests so this will be different year upon year. However, the characteristics of effective learning and the early learning goals have Science learning and working scientifically linked consistently. The early learning goals, summarise the knowledge, skills and understanding that all young children should have gained by the end of the reception year.

Characteristics of effective learning (from birth to 5 matters) support the development of working scientifically from the EYFS stage ready for moving up to KS1.

Playing and exploring children investigate and experience things, and 'have a go'	**Active learning** children concentrate and keep on 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
Use their senses to explore the world around them. Engage in open-ended activity.	Show high levels of energy and fascination. Pay attention to details.	Thinking of ideas Finding new ways to do things. Making predictions. Developing ideas of groupings, sequences, cause and effect. Changing strategy as needed. Finding ways to solve problems. Making links and noticing patterns in their experience. Testing their ideas. Checking how well activities are going. Reviewing how well the approach worked. Sort materials Planning, making decisions about how to approach a task, solve a problem and reach a goal.

The different areas of learning and development- both prime and specific areas, allow for science topics and learning to be covered within them.
Text in italics from development matters document.
Highlighted text shows how learning in the early years supports further learning in KS1 and KS2.

Understanding the world – The natural world	**Expressive arts and design – Creating with materials**	**Communication and language**
Early Learning Goals ○ Explore the natural world around them, making observations and drawing pictures of animals and plants (1) ○ 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 (2) ○ Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter (3)	**Early Learning Goals** Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function (4)	**Early Learning Goals** ○ Make comments about what they have heard and ask questions to clarify their understanding (5) ○ Offer explanations for why things might happen, making use of recently introduced vocabulary (6)

Topics are led by the children's interests so these will vary throughout the years, however some will remain consistent. If science topics capture the children's interest, the topic will last longer and the children will develop their knowledge of the area further. Children will record their scientific observations using a variety of methods including drawing, writing and painting.

Seasons	Living things and their habitats	Materials	Plants	Animals including humans	Electricity and forces	Sound and light
Nursery Play and explore outside in all seasons and in different weather. To know that leaves fall off the trees in the autumn. **Vocabulary:** **Autumn, leaves, wet, dry**	**Nursery** Explore the surrounding natural environment. Explore natural objects from the surrounding environment. **Vocabulary:** **Feather, stone, plant, tree, leaves**	**Nursery** Explore a range of materials. Change the shape and join materials. Combine and mix ingredients. Change materials by heating and cooling. **Vocabulary:** **Mix, shape, join**	**Nursery** To know that plants grow. **Vocabulary:** **Plant, grow**	**Nursery** To know about the life cycles of some animals including humans. Compare adult animals and their babies. Observe how baby animals change over time. To know how to take care of themselves. To know about their senses. **Vocabulary:** **Baby, adult, see, hear, smell, touch, taste**	**Nursery** Use battery powered devices Feel forces Explore how objects are affected by forces Explore how things work **Vocabulary:** **Push, pull, stretch, battery**	**Nursery** Listen to sounds Make sounds Explore light sources **Vocabulary:** **Light, sound, loud, quiet**
Reception Observe and discuss the changes in seasons throughout the year, including the changes in the trees and plant life. Children will practically explore this in their local environment and draw pictures of plants they see (1) (2) (4) Children will Observe and discuss changes in the weather throughout the year including looking at the changes of water to ice/frost. (2) (3) (5) (6) **Vocabulary:** **Autumn, spring, summer, winter, leaves,**	**Reception** Know about the plants in the local natural environment. Know about the animals in the local natural environment. Know about plants and animals in a contrasting natural environment. **Vocabulary:** **hot, cold, snow, ice, frost, wet, dry**	**Reception** Explore and use a range of materials including natural materials. Make objects with different materials including natural materials. Observe, measure and record how materials change when heated and cooled. Compare how materials change over time and in different conditions. **Vocabulary** **Melt, heat, ice, hail, frost, snow, water, card, wood, paper, plastic, change**	**Reception** Know about the different plants and changes in plants in their local environment throughout the year. They will draw/paint pictures of the plants they see (1) (4) (5) **Vocabulary:** **Seed, bulb, leaf, flower, tree, soil, roots, trunk, branches, vegetable, fruit**	**Reception** Name and describe some different animals that live in different habitats. Describe different habitats. Learn about how to take care of themselves including how to live a healthy lifestyle (diet and exercise) (5) Begin to learn about their senses, and use throughout the year for various learning opportunities (1) **Vocabulary:** **Grow, eat, hatch, farm, food, life cycle, eggs, baby, adult, body parts including neck,**	**Reception** Identify electrical devices Explore how to change how things work. Explore how the wind acts on objects. Explore how objects move in water. **Vocabulary:** **Move, roll, drop, fly, turn, spin, bounce, fall, fast, slow, further, battery, electricity, move, plug**	**Reception** Listen to sounds and identify the source Make sounds Explore shadows **Vocabulary:** **Sun, shadow, light, shade, sound, loud, quiet, volume**

fall, flowers, growth, migrate				**head, legs, knees, face, ears, eyes, hair, mouth, teeth**		
Continuous Science opportunities are created with access to the continuous provision. Although certain areas of the continuous provision will change depending on the chosen topic for EYFS, certain areas of the provision are a constant which leads to various different open- ended science exploration opportunities.						

EYFS links to intent

Children have the opportunity throughout science learning to work in teams and lead a team/a partner.

Children will lead other children and encourage them to observe and join in with their lines of enquiry within the continuous provision.

Children have the opportunity to independently explore their own ideas and interests and test these.

Independence is developed through understanding how to stay healthy and the impact food and exercise can have on their bodies. This will support them in independently making healthy choices.

Children have lots of opportunities to ch oose science enquiry throughout the continuous provision.

Children can choose their own scientific line of enquiry or interest and make predictions, complete tests and adapt the tests.

Nearly all aspects of Science within the EYFS are carried out pract ically or in a real -life scenario.

The children use their environment for scientific exploration both within the continuous provision and outside in the school grounds.

The children have visitors come in to school such as the 'mini beast' visitors wher e different creatures were brought into school for the children to observe and discuss.

The children have opportunity to make predictions and carry out tests on these predictions.

The children in EYFS also hatch out chick eggs, having this process take place in their environment enables them to develop a deep understanding.