Science – Foundation Stage

Early Learning Goals

- **Understanding the World:** The Natural World • Explore the natural world around them, making observations and drawing pictures of animals and plants.
- **Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.**
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	Animals Including Humans	Plants	Materials	Physical Processes	Seasonal Changes
	• Understand the life cycle of an animal. • Begin to understand the need to respect and care for the natural environment and all living things.	• Plant seeds and care for growing plants. • Understand the life cycle of a plant.	• Talk about the differences between materials and changes they notice. • Explore how things work.	• Explore and talk about different forces they can feel.	
FS1	Explore the world around me and talk about what I see using a wide vocabulary. Show respect and care for the environment. Enjoy looking at photographs of my younger self.	Show respect and care for the environment.	Explore collections of materials with similar or different properties. Enjoy hands on exploration using all my senses.	Talk about different forces that I can feel. (Pushing and Pulling) Talk about changes in materials such as melting. Explore magnetic attraction and repulsion. Explore floating and sinking. Explore shadows and light.	Talk about changes seen as the seasons change.
Autumn Term	**All About Me** Look at photos of when I was a baby and talk about how I have changed. What can I do now that I couldn't as a baby? Naming parts of the body.		**Continuous Provision** Enjoy hands on exploration using all my senses. Explore objects by linking together different approaches. Explore natural materials, indoors and outside.	Talk about changes in materials such as melting. Making chocolate Bonfire sparklers.	**Stories** Observe and explore how the different seasons change. Look for signs of Winter. Link to Here Comes Jack Frost Story.

Spring Term			**Continuous Provision** Explore collections of materials with similar or different properties. Explore how things work.	**Superheroes** Investigating different forces. Talk about different forces that can be felt. (Pushing and Pulling) Explore floating and sinking. Explore shadows and light. Explore magnetic attraction and repulsion	**People Who Help Us** Look for signs of Spring on our Local area walk to post the letter. Investigate signs of spring in the Nursery environment.
Summer Term	**Minibeasts** Show respect and care for the environment. Understand the life cycle of an animal. (Butterfly) Mini beast hunt. Investigating habitats. Link to The Very Hungry Caterpillar story. Insect Lore caterpillars growing into butterflies.	**Food Around the World** Plant seeds and care for growing plants. Understand the life cycle of a plant. Talking about where food comes from – Link to Handa's Surprise story. Planting seeds.			**Mini-beasts** Talk about how the environment has changed now it is Summer. Look for signs of Summer. Take part in a Mini-beast hunt in the outdoor area.

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	Animals Including Humans	Plants	Living Things	Materials	Physical Processes	Seasonal Changes
Development Matters – Reception Explore the natural world around them. Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around them.						
FS2	• Recognise animals. • Name some animals. • Draw animals.	• Recognise plants. • Draw plants.	• Describe what we can hear, see and feel outside. • Explore the natural world around me.	• Explain natural processes such as: ○ Ice melting	• Explain natural processes such as: ○ A sound causing a vibration ○ Light travelling through transparent materials. ○ An object causing a shadow. ○ A magnetic attracting an object. A boat floating on water.	• Know the different seasons. • Recognise the difference between seasons (hot/cold) • Know how seasons change throughout a year. • Talk about the seasonal changes in my local area.
Autumn Term	Where does food come from? E.g. Milk comes from cows. Identify some of the animals that live in the jungle. Draw jungle animals. What animals can we see in the environment in Autumn?	Where does food come from? Growing Vegetables.	Talk about what they can see, hear and feel outside.	Changing Materials – Baking Bread		Autumn Walk Identify the signs of Autumn

Spring Term	Identify Farm animals Animals and their babies	Draw plants found in Spring. Plant a seed	Talk about what they can see, hear and feel outside.	Investigate ice melting.	Light and Dark. Day and Night Floating and Sinking	Winter Walk – identify the signs of Winter. Spring Walk – identify the signs of Spring.
Summer Term	Identify and name sea creatures.	Look at and describe under sea plants. Draw plants	Talk about what they can see, hear and feel outside.	Materials to build the houses for the 3 pigs. Make sand castles with wet and dry sand.	Sound	Summer walk – identify the signs od summer. Compare all 4 seasons.

Science: Key Stage 1

	Animals including humans	Plants	Living things and their habitats	Materials	Seasonal changes
Year 1	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.	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.	Not covered in Y1	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.	Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies.
Autumn Term	• What body parts can you think of? Name and label body parts. • Discuss senses and play senses feely bag game. • Taste and smell foods from giant's food shopping. • Listening walk in school. • Choose an adjective and match to an object (linked to touch). • Hot and cold climates – which animals live there, what are their features and what do they eat? • Blubber experiment – how do polar bears keep warm?	• Identify and name local plants throughout the year during Autumn, hunt. • Explore differences between deciduous and evergreen trees – link to Christmas trees.			• Using eyes go on an Autumn hunt – discuss weather and *plants. Link to the senses.* • Experiment – giant's shadow over the day – draw in chalk on the hour. How has the shadow changed? Why?

Spring Term	• Identify and name local animals and describe their observable features (legs, paws, eyes, feathers, quills etc). • Sort local animals according to what they eat (carnivores, herbivores, omnivores).	• Identify and name local plants throughout the year during Spring hunt.		• Materials hunt – class room. Local environment. • What materials are used in buildings today? What materials were used in buildings in Tudor times? • Explore properties of selection of materials. • Baking bread – what materials are used? Describe them. How does the dough change when baked?	• Go on a Spring hunt – discuss weather and *plants. Link to the senses.* • Experiment – giant's shadow over the day – draw in chalk on the hour. How has the shadow changed? Why?
Summer Term	• Group local animals/pets into mammals, reptiles, amphibians, fish, birds, mammals.	• Identify and name local plants throughout the year during Summer hunt. • Name, identify and sort plants (common and wild). • Label parts of the plant.		• Sort and compare materials and their properties. • What materials were used to build castles? Armour? Weapons?	• Go on a Summer hunt – discuss weather and *plants. Link to the senses.* Weather diary.

Science: Key Stage 1

	Animals including humans	Plants	Living things and their habitats	Materials	Seasonal changes
Year 2	Notice that animals, including humans, have offspring which grow into adults Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Observe and describe how seeds and bulbs grow into mature plants Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Explore and compare the differences between things that are living, dead, and things that have never been alive Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other Identify and name a variety of plants and animals in their habitats, including micro-habitats Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	Not covered in Year 2
Autumn Term			• Identify and sort items into living, no longer living and never been alive. Look for evidence of and explore living things in our playground. • *What do animals need to survive?* Can you remember the seven life processes (MRS GREN)? What do all living things do? • Do all living things like living in the same microhabitats? • British habitats - Sort living things into urban, coastal, woodland and pond habitats. • How do we know which dinosaurs are herbivores or carnivores? • What is a food chain? Create three and four part food chains.	• Sort and classify materials. Identify a classroom object and show what material/s it is made from. • Materials hunt around school. • Explain which properties make some materials suitable or unsuitable for different purposes. • Explain and demonstrate four ways the shapes of some objects can be changed. • How do we keep warm in winter? • What are natural materials? Sort the materials into two groups, Natural or Man made.	

Spring Term	• What does Bob need to survive on the moon? What three things do all animals including humans need to survive? • Research and create a balanced plate. • Understand what is meant by a balanced lunch - Create a healthy lunch for Bob. • Why is exercise important? Identify the effects exercise has on the body. • Germ investigation – Glitterbugs. Use glitter to represent germs in handwashing experiment. • Create a poster about how to be healthy. • Name the different stages in the human timeline.	• Can plants survive on the Moon? Bean in a bag experiment (hydroponics) Observe growth. • Life cycle of a bean. • Do bigger seeds grow into bigger plants? • Cress heads - know that cress seeds need water and the right temperature to germinate and grow. Record cress growth. • Seed sorting challenge. • Match the seed to the plant. • Plants we eat - Give examples of food crops and which part of the plant we eat.		• Explore how materials change. • Experiment – which material is best for a waterproof coat?	
Summer Term	• Create life cycles of living things. • How do the living things in their habitat depend on each other to stay alive? • Visit to Yorkshire Wildlife Park.	• Can plants survive in the desert? • Life cycle of a sunflower. • Walk in Central Park to observe plants living in the local area (Spring and Summer Term).	• Sort animals into world habitats (desert, ocean, rainforest, arctic) • Create bug hotels and observe living things found there over time. • Create a desert food chain. • Explain how a Meerkat is suited to its habitat.	• Experiment – which material is best for mopping up the wee in the Meerkat den? • Waterproofing materials – Charles Mackintosh Answer questions – what if all materials were transparent? Flexible? Rigid? Made of chocolate? Made of glass? Made of playdough.	