

Oakley Infant School Medium Term Plan

Subject: Science	Year R	Year 1	Year 2
Autumn 1			
<p>Curriculum</p> <p>Objectives</p>	<p>All about me - Who am I?</p> <ul style="list-style-type: none"> Explore the natural world around them, making observations and drawing pictures. Describe what they see and hear while they are outside. Ask questions to find out more and check what has been said to them. 	<p>Stop look listen - Exploring plants and trees.</p> <ul style="list-style-type: none"> Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and name the roots, trunk, branches and leaves of trees. <p>Seasonal Changes</p> <ul style="list-style-type: none"> Observe changes across the four seasons (longitudinal study) Observe and describe the weather associated with the seasons and how day length varies. 	<p>Oakley under Investigation - observing and describing how bulbs grow into mature plants.</p> <ul style="list-style-type: none"> Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants need water, light and warmth to grow and stay healthy.
	<ul style="list-style-type: none"> Exploring similarities and differences between each other. Exploring Autumnal changes that happen in the outdoor environment through regular welly walks around the school grounds and talk about what they see. 	<p>Key questions</p> <ul style="list-style-type: none"> How can we sort and group leaves? How can we identify the trees observed on our walk? Do different plants grow in the garden to those in the field? Do all plants look the same? Do they have the same features? (root, leaves, stem) How does the class tree change across the 4 seasons? How does the weather and local habitat change across the 4 seasons? <p>Key Ideas</p> <ul style="list-style-type: none"> Deciduous trees lose their leaves in winter, evergreen keep their leaves. The leaves from trees can help us identify the tree. I am beginning to identify common trees (oak, sycamore, beech, silver birch, willow) Trees have trunk, roots, branches, bark and leaves The plants in the vegetable garden have been planted, wild plants grow on the school field and they have not been planted by people. 	<p>Key questions</p> <ul style="list-style-type: none"> What are the similarities and differences between seeds and bulbs? What is a bulb? What do plants need to grow? How do plants grow over time? <p>Key ideas</p> <ul style="list-style-type: none"> Plants grow from seeds/bulbs Seeds remain dormant until given water, light and food. Bulbs remain underground all year – they contain a whole plant inside bulb protects & feeds them during the winter. Plants need light, water and warmth to grow and survive
		<ul style="list-style-type: none"> Observing closely Identifying and classifying Using observations and ideas to suggest answers to questions. 	<ul style="list-style-type: none"> Observing closely Identifying and classifying Using observations and ideas to suggest answers to questions.

Autumn 2			
Curriculum	<p>Celebrations - How do we celebrate?</p> <ul style="list-style-type: none"> • Explore the natural world around them, making observations and drawing pictures. • Describe what they see and hear while they are outside. • Ask questions to find out more and check what has been said to them. • Understand some important processes and changes in the natural world around them, including the seasons. • Understand the effect of changing seasons on the natural world. • Learn new vocabulary 	<p>Our Toy Story – exploring materials</p> <ul style="list-style-type: none"> • Distinguish between an object and the material from which it is made. • Identify and name a variety of everyday materials, including wood, metal, plastic, glass, 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 properties exploring materials. <p>Seasonal Changes</p> <ul style="list-style-type: none"> • Observe changes across the four seasons (longitudinal study) • Observe and describe the weather associated with the seasons and how day length varies. 	<p>Fire! Fire! - identifying and comparing properties of materials to determine whether they are suitable for a purpose.</p> <ul style="list-style-type: none"> • 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 shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.
	<ul style="list-style-type: none"> • Exploring Autumnal changes that happen in the outdoor environment through regular welly walks around the school grounds and talk about what they see. • Learning about different celebrations. 	<p>Key questions</p> <ul style="list-style-type: none"> • How can we sort toys into different groups? • What words can we use to describe the properties of materials? – feely bag/box • What are the different properties of wood, metal, fabric, plastic? How are they the same/different? • Which material is most suitable to make a waterproof Hat, umbrella, jacket • Which ball is the bounciest? • How does the weather and local habitat change across the 4 seasons? <p>Key ideas</p> <ul style="list-style-type: none"> • We can group materials based on their properties into metals, fabrics, wood, plastic and ceramics (including glass) • The properties of a material determine whether they are suitable for a purpose. 	<p>Key questions</p> <ul style="list-style-type: none"> • How do different materials change shape? • Which shapes make the strongest paper bridge? • Which materials absorb the most water? • How many pieces of paper do you need until it becomes opaque? • Which material would be the strongest to use as a floor tile? <p>Key ideas</p> <ul style="list-style-type: none"> • Materials can be changed by physical force (twisting, bending, squashing and stretching) • There are many different materials that have different describable and measurable properties. • The properties of a material determine whether they are suitable for a purpose.
		<ul style="list-style-type: none"> • Observing Closely • Performing simple tests • Identifying and classifying • Using observations to suggest answers to questions 	<ul style="list-style-type: none"> • Performing simple tests • Identifying and classifying • Using observations to suggest answers to questions

Spring 1			
Spring 1	<p>Polar Explorers - Who lives here?</p> <ul style="list-style-type: none"> • Know some similarities and differences about the natural world around them, and contrasting environments, drawing on their experiences and what has been read in class. • Explore the natural world around them, making observations and drawing pictures. • Describe what they see and hear while they are outside. • Ask questions to find out more and check what has been said to them. • Understand some important processes and changes in the natural world around them, including the seasons. • Recognise that some environments are different to the one in which they live. • Learn new vocabulary 	<p>Once Upon a time – identifying and classifying animals</p> <ul style="list-style-type: none"> • 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 <p>Seasonal Changes</p> <ul style="list-style-type: none"> • Observe changes across the four seasons (longitudinal study) • Observe and describe the weather associated with the seasons and how day length varies. 	<p>Up, up and away – investigating the basic needs for survival and how animals, including humans grow into adults.</p> <ul style="list-style-type: none"> • Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name the different sources of food. • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.
	<ul style="list-style-type: none"> • Comparing the Polar environment with the local environment and what it means for animals who live there. • Investigating freezing and melting • Finding out about the Penguin lifecycle. • Investigating animals in the Polar regions and how they adapt to their environment. • Learning about camouflage. • Exploring outdoor environment through regular welly walks around the school grounds and talk about what they see. 	<p>Key Questions</p> <ul style="list-style-type: none"> • How can we group and organise animals? • Do all animals look the same? • What do animals eat? • Do all animals eat the same food? • How does the weather and local habitat change across the 4 seasons? <p>Key ideas</p> <ul style="list-style-type: none"> • Animals can be grouped based on their characteristics • Different animals need different foods to survive. • Some animals hunt for food - carnivores • Some animals just eat plants - herbivores • Some animals eat both meat and plants - omnivores. 	<p>Key Questions</p> <ul style="list-style-type: none"> • What do animals need to survive? • Do animals including humans change over time? • What is a lifecycle? • What food do animals need for a healthy diet and why? • Why is exercise important and why? <p>Key ideas</p> <ul style="list-style-type: none"> • Know that animals, including humans, have offspring which grow into adults • Know the basic stages in a life cycle for animals, including humans.
		<ul style="list-style-type: none"> • Perform simple tests • Identify & Classify • Observing closely using simple equipment • Gathering and recording data • Asking simple questions 	<ul style="list-style-type: none"> • Perform simple tests • Observing closely • Identify & Classify • Gathering and recording data • Asking simple questions

Spring 2			
Curriculum coverage	<p>Farm to Fork - Where does our food come from?</p> <ul style="list-style-type: none"> • Know some similarities and differences about the natural world around them, and contrasting environments, drawing on their experiences and what has been read in class. • Explore the natural world around them, making observations and drawing pictures. • Describe what they see and hear while they are outside. • Ask questions to find out more and check what has been said to them. • Understand some important processes and changes in the natural world around them, including the seasons. • Manage their own basic hygiene and personal needs and understanding the importance of healthy food choices. 	<p>Bow and curtesy – investigating why materials are used for particular purposes.</p> <ul style="list-style-type: none"> • Distinguish between an object and the material from which it is made. • Identify and name a variety of everyday materials, including wood, metal, plastic, glass, 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 properties <p>Seasonal Changes</p> <ul style="list-style-type: none"> • Observe changes across the four seasons (longitudinal study) • Observe and describe the weather associated with the seasons and how day length varies. 	<p>Flat Stanley – investigating what plants need to grow.</p> <ul style="list-style-type: none"> • Observe and describe how seeds and bulbs grow into mature plants. • Find out and describe how plants need water, light and warmth to grow and stay healthy.
	<ul style="list-style-type: none"> • Exploring different vegetables and farm animals and how to care for them. • Making and tasting a fruit smoothie. • Exploring outdoor environment through regular welly walks around the school grounds and talk about what they see. • Understanding that all food comes from plants or animals. • Eating a variety of different foods keeps us healthy. 	<p>Key questions</p> <ul style="list-style-type: none"> • How can we sort (items) materials by their properties? Can we sort objects using a magnet? • Which material would be the most stretchy enough to make a belt? • Which material would be the most flexible to make a crown? • Which material would be the most hardwearing to make a cloak? • How does the weather and local habitat change across the 4 seasons? <p>Key ideas</p> <ul style="list-style-type: none"> • Materials that have similar properties are grouped into metals, fabrics, wood, plastic and ceramics (including glass). • The properties of a material determine whether they are suitable for a purpose. 	<p>Key questions</p> <ul style="list-style-type: none"> • If plants need water to grow, then surely the more the better. How does the amount of water affect how well a plant grows? • How does the amount of light affect how well my plant grows? <p>Key ideas</p> <ul style="list-style-type: none"> • Plants grow from seeds/bulbs • Seeds remain dormant until given water, light and food. • Bulbs remain underground all year – they contain a whole plant inside bulb protects & feeds them during the winter. • Plants need light, water and warmth to grow and survive
		<ul style="list-style-type: none"> • Ask simple questions. – gather and record data to help answer questions. • Use simple equipment • Perform simple tests • Identify and classify • Asking simple questions • Observe closely using simple equipment. 	<ul style="list-style-type: none"> • Ask simple questions. – gather and record data to help answer questions. • Use simple equipment • Perform simple tests • Identify and classify • Asking simple questions • Observe closely – microscope.

Summer 1			
Summer 1	<p>Growing - How do plants grow?</p> <ul style="list-style-type: none"> • Know some similarities and differences about the natural world around them, and contrasting environments, drawing on their experiences and what has been read in class. • Explore the natural world around them, making observations and drawing pictures. • Describe what they see and hear while they are outside. • Ask questions to find out more and check what has been said to them. • Understand some important processes and changes in the natural world around them, including the seasons. 	<p>Wish you were here – investigating plants and growing plants from seed.</p> <ul style="list-style-type: none"> • 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 <p>Seasonal Changes</p> <ul style="list-style-type: none"> • Observe changes across the four seasons (longitudinal study) • Observe and describe the weather associated with the seasons and how day length varies. 	<p>That sinking feeling – exploring how objects move (forces - working scientifically)</p> <ul style="list-style-type: none"> • The properties of a material determine whether they are suitable for a purpose.
	<ul style="list-style-type: none"> • Exploring how plants grow. <ul style="list-style-type: none"> ○ Investigating what plants need to grow ○ Looking at the basic structure of plants ○ Growing beans from seed • Exploring outdoor environment through regular welly walks around the school grounds and talk about what they see. 	<p>Key questions</p> <ul style="list-style-type: none"> • How can we sort the seeds? • Where do seeds come from? • What do plants need to grow? • Do different plants grow in the garden to the school field? • Do all plants look the same • How do plants grow? • How does the weather and local habitat change across the 4 seasons? <p>Key ideas</p> <ul style="list-style-type: none"> • Plants grow from seeds/bulbs • Roots grow beneath the soil, the stem/trunk, leaves and flowers grow above. • Plants need light and water to grow and survive • Flowers make seeds to make more plants (reproduce) 	<p>Key questions</p> <ul style="list-style-type: none"> • How do objects move? • Do cars with more weight move further? • On what kind of surface does a car move the furthest? • What happens when a car or boat crashes into an object? <p>Key ideas</p> <ul style="list-style-type: none"> • Objects can move in different ways • We can change the way and object moves by pushing and pulling them. • Sometimes pushing and pulling slows down/speeds up the change.
		<ul style="list-style-type: none"> • Ask simple questions. – gather and record data to help answer questions. • Use simple equipment • Perform simple tests • Identify and classify • Asking simple questions • Observe closely using simple equipment. 	<p>Ask simple questions. – gather and record data to help answer questions.</p> <p>Use simple equipment</p> <p>Perform simple tests</p> <p>Asking simple questions</p> <p>Observe closely using simple equipment.</p>

Summer 2			
	<p>Minibeasts/Under the sea - Who lives here?</p> <ul style="list-style-type: none"> • Know some similarities and differences about the natural world around them, and contrasting environments, drawing on their experiences and what has been read in class. • Explore the natural world around them, making observations and drawing pictures. • Describe what they see and hear while they are outside. • Ask questions to find out more and check what has been said to them. • Understand some important processes and changes in the natural world around them, including the seasons. 	<p>Food Glorious Food – exploring the structure and characteristics of animals including humans.</p> <ul style="list-style-type: none"> • 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 <p>Seasonal Changes</p> <ul style="list-style-type: none"> • Observe changes across the four seasons (longitudinal study) • Observe and describe the weather associated with the seasons and how day length varies. 	<p>Where is Kloof? – exploring how habitats provide for the needs of the animals and plants that live there.</p> <ul style="list-style-type: none"> • Explore and compare the difference 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 the different sources of food.
	<p>Exploring minibeasts habitats, characteristics and features</p> <ul style="list-style-type: none"> • Use books, photographs and online research to find out about mini beasts, where might they find them and what they eat and do. • Name common minibeasts. • Learn about the lifecycle of a butterfly. • Go on a minibeast hunt in the school grounds. <p>Investigating and exploring sea creatures</p> <ul style="list-style-type: none"> • Find out about animals who live under the sea and ask why they live there. • Look at how sea creatures have adapted to survive in their habitat. • Understand that we have a responsibility to look after our oceans. <p>Materials</p> <ul style="list-style-type: none"> • Explore floating and sinking. • Exploring outdoor environment through regular welly walks around the school grounds and talk about what they see. 	<p>Key questions</p> <ul style="list-style-type: none"> • Why do animals have different features and characteristics? • Why do some move fast and some move slow? • What are the similarities and differences between a human and a chosen animal. • Which of our senses is the most accurate at identifying food? • How does the weather and local habitat change across the 4 seasons? <p>Key ideas</p> <ul style="list-style-type: none"> • There are many different animals with different characteristics these help them survive. • Humans are mammals and they share similar characteristics. • Animals and humans can use their senses to detect food. 	<p>Key questions</p> <ul style="list-style-type: none"> • How can we identify if something is alive? • How do animals eat? • Do all animals eat the same thing? • Which animals hunt, and which animals are hunted? Why? • What animals live in our school environment? • How are animals and plants ‘adapted’ to live in their habitats • Why do animals and plants like to live in different places? • How do seasons affect our animals and plants? • Which animals hibernate and why? <p>Key ideas</p> <ul style="list-style-type: none"> • Plants and animals live in habitats suited to their needs • Habitats provide for the needs of the animals and plants that live there • Identify and classify creatures that are alive, dead and never been alive. • Different food chains occur in different habitats • Animals obtain their food from plants and other animals as part of a food chain.

			<ul style="list-style-type: none"> • Animals that eat other animals have to hunt them (predators) animals that are hunted are prey
		<ul style="list-style-type: none"> • <i>Ask simple questions. – gather and record data to help answer questions.</i> • <i>Use simple equipment</i> • <i>Identify and classify</i> • <i>Asking simple questions</i> • <i>Observe closely – microscope.</i> • <i>Gather and recording data</i> 	<ul style="list-style-type: none"> • <i>Ask simple questions. – gather and record data to help answer questions.</i> • <i>Use simple equipment</i> • <i>Perform simple tests</i> • <i>Identify and classify</i> • <i>Asking simple questions</i> • <i>Observe closely – microscope.</i> • <i>Gather and recording data</i>