Science: Knowledge and Skills Progression Map

Early Years

By the end of EYFS, children will:

Nursery

- Use all their senses in hands-on exploration of natural materials.
- Explore collections of materials with similar and/or different properties.
- Talk about what they see, using a wide vocabulary.
- Explore how things work.
- Plant seeds and care for growing plants.
- Understand the key features of the life cycle of a plant and an animal,
- Begin to understand the need to respect and care for the natural environment and all living things.
- Explore and talk about different forces they can feel.
- Talk about the differences between materials and changes they notice.
- Make healthy choices about food, drink, activity and toothbrushing,
- Understand simple questions about 'who', 'what' and 'where' (but generally not 'why').

Reception

- Explore the natural world around them.
- Describe what they see, hear and feel whilst outside.
- Recognize some environment that are different to the one in which they live.
- Understand the effect of changing seasons on the natural world around them.
- Manage their own needs- personal hygiene.
- Know and talk about the different factors that support their overall health and wellbeing: healthy eating, toothbrushing, having a good sleep routine.
- Learn new vocabulary

ELG

Understanding the World

- Explore the natural world around them, making observation and drawing pictures of animals and plants.

EYFS Vocabulary:

Nursery

Me and My Community

Grow, babies, change, people, appearance, living things, environment, rubbish, care, harmful

Once Upon a Time

record, materials, body parts, pets, scientific observations, because, next, then, day and night

Starry Night

sunlight, sky, dark, domestic animals, wild animals, nocturnal, explore, feature, observe

Dangerous Dinosaurs

prehistoric, carnivore, herbivore, plants, dinosaurs, parks, gardens, local environment, habitats, trees,

Sunshine and Sunflowers

weather, patterns, summer, winter, year, parts, plant, roots, stem, leaves, flowers, petals, description

Big Wide World

natural world, butterflies, life cycle, eggs, chrysalis, cocoon, emerges, hatch, grow, seeds, air, sunlight, warmth, water, soil, senses, hearing, sight, tough, taste, smell, world, nectar, flowers, insects, special features.

Reception

Lets Explore

Earth, animal, environment, planet

Marvellous Machines

Battery, electric, machine, robot

Long Ago

Adult, baby, change, grow

Ready, Steady Grow

• 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. **PSED** • Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy, food choices. **Communication and Language** • Listen attentively and response to what they hear with relevant questions, comments and actions when being read to and during whole class discussion and small group interactions.	Air, animal, calf, cow, drink, eat, exercise, farm, food, grow, healthy, lamb, sheep, plant, seed, sunlight, warmth, water **Animal Safari** Bird, camouflage, carnivore, egg, feathers, habitat, herbivore, mammal, omnivore, reptile, scales **On the Beach** Beach, carnivore, crab, fish, fin, gills, habitat, herbivore, carnivore, omnivore, tail, starfish

Nursery	Autumn 1 Me and my Community	Autumn 2 Once Upon a Time	Spring 1 Starry Night	Spring 2 Dangerous Dinosaurs	Summer 1 Sunshine and Sunflowers	Summer 2 Big Wide World
Development Matters links:	Change happens to everyone and we change as we grow. People change as they grow and have changed since they were babies, both in their appearance and what they are able to do. We should care for the environment. For example, rubbish needs to be put in the bin. Say how they have changed over time. Show care for living things and the environment.	Explore and create using a wide range of materials and components, including upcycled materials, construction kits, textiles and ingredients.	Begin to observe and talk about living things in the local environment. During the day there is sunlight. At night there is no sunlight so the sky is dark. Begin to talk about and name the body parts of common animals, including pets. Bats are animals that are awake during the night and sleep during the day. Make simple comparisons between objects and materials, such as bigger and smaller, and softer and harder. Soft materials bend easily. They are not hard or rough to touch. Name a variety of domestic and wild animals.	Talk about some of the things that they have observed using simple scientific vocabulary Living things including dinosaurs lived millions of years ago.	Begin to observe and talk about living things in the local environment. Parks and gardens contain lots of different plants and animals. We can use our senses; hearing, sight, touch, taste and smell help us to find out about the world around us. There are many animals including snails, spiders, butterflies and woodlice that live in gardens. Care for growing seeds and plants and describe observable features of different types of plants and trees. Plants need air, sunlight, warmth, water and soil to grow.	Explore and talk about the ways that the weather, plants and animals of places can be different through pictures and stories. The weather, plants and animals differ in different places around the world. Show care for living things and the environment. We should care for the environment. For example, rubbish needs to be put in the bin.

			Some animals including owls, foxes and bats are awake at night and sleep during the day.			
Substantive Knowledge:	-People change as they grow and have changed since they were babies, both in their appearance and what they are able to do. -Begin to understand the need to respect and care for the natural environment and all living things.	-Materials can feel soft, smooth, rough, squashy thick and thin. -Objects can be grouped according to how they feel. -Soft materials bend easily. -They are not hard or rough to touch. -Hard materials are difficult to bend break and cut. -Smooth materials have no lumps, bumps or holes.	-Understand day and night. -Some animals are awake at night and sleep during the day they are called nocturnal animals. -Shadows are made when a solid object blocks light.	-Living things including dinosaurs lived millions of years ago. -Some dinosaurs ate plants and some dinosaurs ate other dinosaurs.	-Understand key features of the life cycle of a plant and animals. - Begin to understand the need to respect and care for the natural environment and all living things. -Living things live in different habitats. -The weather, plants and animals in the local environment, change throughout the year. -Understand parts of a plant. -Plants need air, sunlight, warmth, water and soil to grow. -We can use our senses; hearing, sight, touch, taste and smell help us to find out about the world around us.	-Living things are different in different places around the world. -Animals have special features that help them live in their environment. -We should care for the environment.
Disciplinary Knowledge: Skill	-Recognise and discuss how they have changed from when they were babies.	-With support, observe, record and talk about materials and living things.	-Begin to observe and talk about living things in the local environment.	-With support, use simple equipment, such as timers, rulers and containers, to	-Begin to observe and describe about living things and habitats in the local environment.	-Identify common features for different groups of animals, including wild and

	-Show and describe how to care for living things and the environment.	-Explore the natural world around them and give simple descriptions, following observation, of changes. -Compare and group objects and materials -Identify that materials have different properties. -With support, observe, record and talk about materials and living things. -Represent scientific observations by mark making, drawing or creating simple charts and tables. -Offer explanations for why things happen -Make simple comparisons between objects and materials. -Describe, predict and sort things that float and sink.	-Name a variety of animals. -Identify body parts and common features for different groups of animals. -Make a shadow bigger or smaller using toys, play equipment and a light source.	measure length, height, capacity and time. -Talk about some of the things that they have observed using simple scientific vocabulary. -Represent scientific observations by mark making, drawing or creating simple charts and tables. Offer explanations for why things happen.	-Begin to describe patterns of weather in summer and winter. -Explore the natural world around them and give simple descriptions. -Care for growing seeds and plants -Name and describe basic features of plants and trees. -With support represent scientific observations by mark making, drawing or creating simple charts and tables. -Describe some ways that plants or animals should be cared for in order for them to survive.	domestic animals. -Show care for living things and the environment.
Experience:						

Reception	Autumn 1 Let's Explore	Autumn 2 Marvellous Machines	Spring 1 Long Ago	Spring 2 Ready, Steady Grow	Summer 1 Animal Safari	Summer 2 On the Beach
Development Matters links:	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. Develop scientific knowledge through play activities, sharing stories and non-fiction books and discussion. Sort and group materials and resources and talk about how they are similar or different.	Explore the natural world around them, making observations and drawing pictures of animals and plants. Develop scientific knowledge through play activities, sharing stories and non-fiction books and discussion. Make observations about the world around them. Sort and group materials and resources and talk about how they are similar or different. Use technology to record their work and ideas.	Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. Discuss simple changes as they have grown from being a baby. Sort and group materials and resources and talk about how they are similar or different. Use technology to record their work and ideas.	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. Develop scientific knowledge through play activities, sharing stories and non-fiction books and discussion. Make observations about the world around them. Use technology to record their work and ideas.	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. Develop scientific knowledge through play activities, sharing stories and non-fiction books and discussion. Know ways to care for their local environment.	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. Develop scientific knowledge through play activities, sharing stories and non-fiction books and discussion. Sort and group materials and resources and talk about how they are similar or different. Use technology to record their work and ideas.

					Make observations about the world around them. Use technology to record their work and ideas.	
Substantive Knowledge:	-Materials have different textures. -Different animals live in different places.	-Some materials are magnetic. -Some metals are magnetic. Other materials are non-magnetic, such as wood, dough and glass. -Machines need power to make them move or work. Some machines use batteries to make them work. Batteries power some devices, such as torches and toys. A battery is a store of electric power.	-People grow from being babies to adults. -As people grow older, they look different and can do different things. -Soft materials bend easily. -Hard materials are difficult to bend, break and cut.	-We use our sense to explore the world. -Plants need water, sunlight, air and warmth to grow. -Seeds need water, air and warmth to begin to grow. -Some plants produce seeds so that they can grow new plants. -Animal babies are known by different names than adult animals.	-Some animals are pets and are kept in peoples' homes. -Pets need food, water, sleep, exercise and play to keep them happy and healthy. -To know the names of different animal parts and know where they are on the animals body. -Understand there are different animal groups and why they belong to that group. -Not all animal babies have the same features as their parents when they are born. -Animals eat different kinds of food, including other animals, plants or both animals and plants. -Different types of animals grow to different lengths and heights.	-Some animals including sea birds, crabs and starfish live at the sea shore. -Molluscs such as snails, clams and muscles have shells to protect them. -Crabs have five pairs of legs. The first pair legs has pincers. -Animals live in different habitats. -Rock pools are habitats for many animals, such as starfish, crabs, anemones, mussels, barnacles and periwinkles. -Animals eat different kinds of food, including other animals, plants or both animals and plants. -Birds are animals that have beaks and feathers and lay eggs. -There are lots of different animals. Some animals

						including fish, whales, sharks and dolphins live in the seas and oceans. -Fish use gills to breathe. They use their tails to swim and have fins to keep them upright. -Some objects float and others sink.
Disciplinary Knowledge: Skill	-Make a shadow bigger or smaller using toys/play equipment and a light source. -With support, observe, record and talk about materials and living things. -Observe and describe living things and their habitats within the local environment.	-Represent scientific observations by mark making, drawing or creating simple charts and tables. -Offer explanations for why things happen, making use of vocabulary, such as, because, then and next. -Use age-appropriate software to create images and record sounds and videos. -Identify that materials have different properties and explore and sort magnetic and non-magnetic materials through play and exploration. Play with and explore battery-powered toys and models. Ask a relevant	-Use age-appropriate software to create images and record sounds and videos. -Represent different parts of the human body from observations, imaginations or memory with attention to some detail. -Recognise and discuss how they have changed from when they were babies. -Name and sort everyday items into groups of the same material.	-Observe and describe living things and their habitats within the local environment. -Develop storylines in their pretend play and use conversation and discussion to help solve problems, organize thinking and activities and explain how things work and why they might happen. -With support, observe, record and talk about materials and living things. -Care for growing seeds and plants and describe observable features of different types of plants and trees. -Begin to talk about ways to care for a plant or animal.	-Begin to talk about ways to care for a plant or animal. -Describe some ways that plants or animals should be cared for in order for them to survive. -Begin to notice and talk about the different places around the world, including oceans and seas. -Make a shadow bigger or smaller using toys/play equipment and a light source. -Identify common features for different groups of animals, including wild and domestic animals. -Begin to talk about and name the body parts of common animals, including	-Say how two places in the immediate environment are the same or different. -Extend their vocabulary by exploring and using a wide range of new words. -Name a variety of domestic and wild animals. -Talk about some of the things that they have observed using simple scientific vocabulary. -With support, observe, record and talk about materials and living things. -Use natural materials to create art. -Identify common features for different groups of animals, including wild and

		scientific question to find out more, explain how things work and why they might happen.		-Name and describe basic features of plants and trees. -Represent scientific observations by mark making, drawing or creating simple charts and tables. -Offer explanations for why things happen, making use of vocabulary. -Name a variety of domestic and wild animals. -Match animals to their young.	pets. -With support, observe, record and talk about materials and living things. -Match animals to their young. -Match animals to the foods that they eat. -Talk about some of the things that they have observed using simple scientific vocabulary.	domestic animals. -Match animals to the foods that they eat. -Talk about some of the things that they have observed using simple scientific vocabulary. -Represent scientific observations by mark making, drawing or creating simple charts and tables. -Offer explanations for why things happen, making use of vocabulary. -Describe, predict and sort things that float and sink and talk about the forces that they can feel. -Talk about and play with objects that float and sink and describe different forces that they can feel.
Experiences:					Trotters Farm.	Beach experience.

Key Stage 1

By the end of KS1, children will:

KS1 Working Scientifically

During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- asking simple questions and recognising that they can be answered in different ways
- observing closely, using simple equipment
- performing simple tests
- identifying and classifying
- using their observations and ideas to suggest answers to questions
- gathering and recording data to help in answering questions.

Year 1

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, including 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 materials

- 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.

Seasonal changes

- observe changes across the four seasons
- observe and describe weather associated with the seasons and how day

KS1 Vocabulary:

Year 1

Every day materials

Absorbent, bendy, brick, clay, concrete, cotton, fabric, glass, hard, human-made, leather, material, metal, natural, paper, plastic, property, rough, rubber, sand, shiny, smooth, soft, stone, stretchy, transparent, water, waterproof, wood, wool.

Animals, including humans

Animal, ankle, arm, chest, chin, ear, elbow, eye, finger, foot, forearm, forehead, hair, hand, head, hearing, human, knee, leg, limb, mammal, mouth, neck, nose, sense, shoulder, sight, skin, smell, taste, thigh, toe, tongue, touch, unique, upper arm, wrist.

Seasonal changes

Autumn, Beaufort Scale, blossom, breeze, bud, cloud, dark, daytime, deciduous, Earth, evergreen, fog, fruit, gale, grow, hail, hibernate, hurricane, leaf, rain, rainfall, rain gauge, rays, season, seasonal change, sleet, snow, spring, storm, summer, sun, sun cream, sunglasses, thermometer, weather, weather forecast, wind, windsock, winter.

Plants

Bark, blossom, branch, bud, bulb, deciduous, evergreen, flower, fruit, garden, garden plant, leaf, petal, plant, root, season, seed, shelter, soil, stalk, stem, tree, trunk, wild plant, woodland.

Animals

Amphibian, animal, antenna, beak, bird, camouflage, carnivore, claw, ear, eye, feather, fin, fish, fur, gill, group, hearing, herbivore, human, hunt, mammal, mouth, nose, offspring, omnivore, pet, reptile, scale, sense, shell, sight, skin, smell, tail, teeth, tongue, touch, wing.

Scientific terms

Compare, describe, equipment, investigation, observe, question, record, results, venn diagram, bar chart, data, degrees Celsius, describe, equipment, investigation, measurement, millimeter, observe, prediction, table, temperature, unit, volume, research, block graph, instructions, test.

length varies.

Year 2

Living things and their habitats

- 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 microhabitats
- 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.

Plants

- 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

Animals, including humans

- 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.

Uses of everyday materials

- 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.

Year 2

Animals, including humans

Adult, air, exercise, balanced diet, birth, bone, carbohydrates, coordination, dairy and alternatives, energy, fat, food, food group, fruit and vegetables, germ, growth, healthy, heart, human, hydrate, hygiene, life cycle, love, lungs, mammal, muscle, nutrient, nutrition, offspring, omnivore, proteins, reproduction, sense, shelter, space, sugar, survive, sweat, vegetarian diet, vitamin, water.

Animals

Adaptation, air, amphibian, animal, bird, camouflage, carnivore, fish, food, food chain, growth, habitat, herbivore, identify, invertebrate, living, mammal, movement, non-living, nutrient, offspring, omnivore, plant, predator, prey, reproduction, reptile, respiration, sensitivity, shelter, soil, space, temperature, woodland.

Uses of everyday materials

Absorbent, bend, bendy, cardboard, clay, fabric, glass, hard, human-made, material, metal, natural, object, paper, plastic, pollution, property, recycle, rock, rough, rubbish, shape, smooth, soft, squash, strength, stretchy, strong, texture, transparent, twist, waterproof, wood.

Plants

Air, bark, branch, bulb, deciduous, evergreen, flower, flower bud, fruit, germinate/germination, habitat, leaf, nutrient, plant, root, season, seed, shade, soil, stem, sunlight, survive, temperature, tree, trunk, warmth, water.

Living things and their habitats

Adult, air, amphibian, bird, birth, carnivore, egg, fish, food, food chain, grow/growth, habitat, hatch/hatching, herbivore, hibernation, insect, invertebrate, life cycle, mammal, microhabitat, offspring, omnivore, reproduce/reproduction, reptile, season, shelter, survive, water, worm.

Scientific terms

compare, conclusion, data, investigation, method, observe, prediction, question, record, research, results, block graph, describe, diagram, equipment,

Prior learning links:

Understanding the World:

ELG: Explore the natural world around them, making observations and drawing pictures of animals.

ELG: 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.

ELG: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Personal, Social and Emotional Development:

ELG: Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.

Year 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Everyday Materials		Animals, including humans		Plant Parts	Animals
National Curriculum links:	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 properties.		Identify and name a variety of common animals including, fish, amphibians, reptiles, birds and mammals. Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds, mammals, including pets).		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.	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.

Working Scientifically:	Children at Seaton Academy are taught to use the following practical scientific methods, process and skills through the teaching of Science. -Asking simple questions and recognizing that they can be answered in different ways. -Observing closely, using simple equipment. -Performing simple tests. -Identifying and classifying. -Using their observation and ideas to suggest answers to questions. -Gathering and recording data to help in answering questions.			
Substantive Knowledge: Core *'I know'*	-A material is what an object is made from. -Everyday materials include, wood, plastic, glass, metal, water, rock, brick, paper and fabric. -Describe the properties of materials. -Materials with different properties have different uses. -Know what the best material for the job is a why.	-Humans are living things and they are mammals. -Animals are living things. -The basic body parts are the head, arms, legs, nose, eyes, ears, mouth, hands and feet. -Different animal groups have some common body parts. -Name the five senses: sight, hear, smell, taste, touch, and know which body part is associated with each sense. -Fish, amphibians, reptiles, birds, mammals and invertebrates are groups of animals.	-Plants are important because they provide food, shelter and materials for animals, including humans. -Changes happen to plants across the four seasons. -Basic plant parts include: root, stem, leaf, flower, petal, trunk and fruit. -Plants grow from seeds or bulbs. -Describe the basic needs of a plant. -Name a variety of common wild and garden plans, including deciduous and evergreen trees. -Deciduous trees change across the four seasons. -Evergreen trees keep their leaves all year round.	-Animals are living things. -Carnivores eat other animals, herbivores eat plants and omnivores eat other animals and plants.
Disciplinary	-Identify and name what an object is made from. -Observe materials closely, using simple	-Draw and label the main parts of the human body and say which body part is associated with	-Identify, compare, group and sort a	-Identify, compare, group and sort a

Knowledge: Skill	equipment. -Sort and group objects based on the material from which they are made from. -Identify and describe the simple physical properties of some everyday materials. -Group objects based on their physical properties using a Venn diagram. -Follow instructions to perform simple tests and begin to talk about what they might do or what might happen. -Observe the suitability of materials over time and record their observations.		which sense. -Gather and record simple data by labelling the parts of a human body. -Compare living things based on their features. -Use their observations to suggest an answer to a question. -Perform simple tests to answer questions and talk about what they have found out.		variety of common wild and garden plants, including delicious and evergreen trees, based on observable features. -Observe the local environment throughout the year and ask and answer questions about living things and seasonal change. -Describe and observe how plants and animals change over time. -Label and describe the basic structure of a variety of common plants. -Ask simple scientific questions about the growth of a bean. -Perform simple tests to answer questions and talk about what they have found out.	variety of common animals, including fish, amphibians, reptiles, birds, mammals and invertebrates, based on observable features. -Label and describe the basic structures of a variety of common animals, including: fish, amphibians, reptiles, birds and mammals. -Gather and record simple data in a Carroll diagram. - Observe living things, grouping and sorting them based on the foods they eat. -Ask simple scientific questions. -Describe how to care for animals, including pets. -Use simple equipment to measure and make observations. -Perform simple tests to answer questions and talk about what they have found out.
Experiences:						Whinlatter trip

Key Vocabulary:	Absorbent, bendy, brick, ceramic, clay, concrete, cotton, fabric, glass, hard, human-made, leather, material, metal, metal alloy, natural, oil, opaque, paper, plastic, property, rough, rubber, sand, shiny, silk, smooth, soft, stone, stretchy, synthetic fabric, transparent, water, waterproof, wood, wool.	Amphibian, animal, antenna, beak, bird, body covering, camouflage, carnivore, claw, ear, eye, feather, fin, fish, fur, gill, group, hearing, herbivore, human, hunt, invertebrate, limb, mammal, mouth, nose, offspring, omnivore, pet, reptile, scale, sense, shell, sight, skin, smell, tail, teeth, tongue, touch, wild animal, wing. Abdomen, animal, ankle, arm, calf, chest, chin, ear, elbow, eye, finger, foot, forearm, forehead, hair, hand, head, hearing, human, knee, leg, limb, mammal, mouth, neck, nose, pelvis, sense, shoulder, sight, skin, smell, taste, thigh, toe, tongue, touch, unique, upper arm, wrist.	Bark, blade, blossom, branch, bud, bulb, deciduous, evergreen, flower, fruit, garden, garden plant, hedgerow, leaf, margin, meadow, petal, plant, root, season, seed, shelter, soil, stalk, stem, tree, trunk, vein, wild plant, woodland.	Amphibian, animal, antenna, beak, bird, body covering, camouflage, carnivore, claw, ear, eye, feather, fin, fish, fur, gill, group, hearing, herbivore, human, hunt, invertebrate, limb, mammal, mouth, nose, offspring, omnivore, pet, reptile, scale, sense, shell, sight, skin, smell, tail, teeth, tongue, touch, wild animal, wing.
Scientific Key Vocabulary	compare, describe, equipment, investigation, observe, question, record, results, venn diagram, bar chart, data, degrees Celsius, describe, equipment, investigation, measurement, millimeter, observe, prediction, table, temperature, unit, volume, research, block graph, instructions, test.			
Seasonal Changes				
National Curriculum Links:	Observe changes across the four seasons. Observe and describe weather associated with the seasons and how the day length varies.			
Substantive Knowledge:	-The four seasons are spring, summer, autumn and winter. -Certain events and weather patterns happen in different seasons. -Day length is longer in the summer months and shorter in the winter months in the UK. -Habitats for living things can change during the seasons. -Deciduous trees change across the four seasons. -Evergreen trees keep their leaves all year round.			
Disciplinary Knowledge:	-Observe changes across the four seasons. -Observe and describe how the day length varies across the year. -Describe ways to stay safe in some familiar situations. -Observe the local environment throughout the year and ask and answer questions about living things and seasonal changes. -Ask simple scientific questions. -Use simple equipment to measure and make observations. -Perform simple tests to answer questions and talk about what they have found out. -Gather and record simple data in a range of ways.			

Key Vocabulary:	Anemometer, animal, autumn, Beaufort Scale, blossom, breeze, bud, cloud, dark, daytime, deciduous, dormant, Earth, evergreen, fog, fruit, gale, grow, hail, hibernate, hurricane, leaf, light, meteorologist, migrate, night time, Northern Hemisphere, precipitation, rain, rainfall, rain gauge, rays, season, seasonal change, sleet, snow, spring, storm, summer, sun, sun cream, sunglasses, sunrise, sunset, thermometer, weather, weather forecast, wind, windsock, winter.

Year 2	Autumn 1 Human Survival	Autumn 2 Habitats	Spring 1 Uses of Materials	Spring 2 Plant Survival	Summer 1 Animal Survival	Summer 2
National Curriculum links:	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.	Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different food sources. Explore and compare the difference between things that are loving, dead and things that have never been alive. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. Identify and name a variety of plants and animals in their habitats, including microhabitats.	Identify and compare the suitability 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.	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. Identify and name a variety of plants and animals in their habitats, including microhabitats. 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. Observe and describe how seeds and bulbs grow into mature plants.	Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different food sources. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Identify and name a variety of plants and animals in their habitats, including microhabitats. Notice that animals, including humans, have offspring which grow into adults.	

		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.			
Working Scientifically:	Children at Seaton Academy are taught to use the following practical scientific methods, process and skills through the teaching of Science. -Asking simple questions and recognizing that they can be answered in different ways. -Observing closely, using simple equipment. -Performing simple tests. -Identifying and classifying. -Using their observation and ideas to suggest answers to questions. -Gathering and recording data to help in answering questions.				
Substantive Knowledge: *'I know'*	-Humans grow from baby to toddler to child to teenager to adult to elderly. -Humans need water, food, air and shelter to survive. -A healthy lifestyle includes: exercise, a balanced diet, good quality sleep and personal hygiene. -A prediction is a best guess at what might happen in an investigation. -Results from an investigation can be	-A habitat is a place where plants and animals live. -A micro-habitat is a very small habitat. -A habitat provides food, water, shelter and space. -Living things are those that are alive. -Dead things are those that were once living but are no longer. -Somethings have never been alive. -The seven life processes of living things are: moving,	-Materials found in the environment can be natural and human-made. -Some objects and materials can be changed by squashing, bending, twisting, stretching, heating, cooling, mixing and being left to decay. -A prediction is a best guess at what might happen in an investigation. -Results from an investigation can be used to answer a	-Many plants grow from seeds or bulbs. -Plants have roots, stems, leaves, flowers and fruit. -A bulb contains a tiny plant and all the food needed to grow. -A seed is a small object made by a plant that can grow into a new plant. -Seeds need water and warmth to start growing (germinate). -As the plant grows bigger, it develops leaves and flowers.	-A habitat is a place where plants and animals live. -A micro-habitat is a very small habitat. -Local habitats include: parks, woodlands and gardens. -Habitats beyond the locality include: beaches, rainforests, deserts, oceans and mountains. -A habitat provides food, water, shelter and space. -Invertebrates are animals without a backbone. -Invertebrates include: worms, molluscs, crustaceans, insects, arachnids and myriapods. -An animal's habitat must provide food, water, air and shelter for the animal to survive. -Animals eat food that is found in their habitat. -Herbivores eat plants. -Omnivores eat plants and animals (meat). -Carnivores eat other animals (meat).

	used to answer a question. -The risks of an unhealthy lifestyle. -Germs can cause illness in humans. -Germs enter the body through the eyes, nose or mouth. -Washing hands with clean running water helps humans avoid getting ill and spreading germs to others.	breathing, using their senses, feeding, getting rid of waste, having offspring and growing. -An animal's habitat must provide water, food, air and shelter for the animal to survive. -Food chains show how living things depend on one another for food. -Plants always start a food chain because they are producers.	question. -A materials physical properties make it suitable for practical purposes. -Objects can be made from one or more materials or different materials with similar properties. -Questions can help us to find out about the world. -Results from an investigation can be used to answer a question.	-Questions can help us to find out about the world. -A prediction is a best guess at what might happen in an investigation. -Results from an investigation can be used to answer a question.	-Food chains show how living things depend on one another for food. -Plants always start a food chain because they are producers. -Humans can damage or destroy habitats. -Humans can help habitats. -Animals are born or hatch from eggs. -Young grow or change until they become adults that can reproduce. -A life cycle can be drawn as a circular diagram. -Ask and answer scientific questions about the world around them. -Many animals behave differently in different seasons in the UK.
Disciplinary Knowledge:	-Describe the stages of human development. -Use a range of methods (tables, charts, diagrams and Venn diagrams) to gather and record simple data with some accuracy. -Describe what humans need to survive. -Describe the importance of exercise, a balanced diet, good quality sleep and personal hygiene. -Use simple equipment to measure and make observations. -Follow a set of instructions to perform a range of simple tests, making simple	-Describe a range of local habitats and habitats beyond their locality and what all habitats provide for the things that live there. -Compare and group things that are living, dead or have never been alive. -Identify and name a variety of plants and animals in a range of habitats and microhabitats. -Use a range of methods (tables, charts, diagrams and Venn diagrams) to gather and record simple data with some	-Describe the properties of natural and human-made materials and where they are found in the environment. -Observe objects, materials and changes over time, sorting and grouping them based on their features and explaining their reasoning. -Describe how some objects and materials can be changed and how these changes can be desirable or undesirable. -Use a range of methods (tables, charts, diagrams and	-Describe how plants need water, lights and suitable temperature to grow and stay healthy. -Observe living things and changes over time sorting and grouping them based on their features and explaining their reasoning. -Begin to notice patterns and relationships in their data and explain what they have done and found out using simple scientific language. -Identify and name a variety of plants in a range of habitats and microhabitats. -Observe and describe	-Describe a range of local habitats and habitats beyond their locality and what all habitats provide for the things that live there. -Identify and name a variety of plants and animals in a range of habitats and microhabitats. -Describe what animals, including humans need to survive. -Interpret and construct simple food chains to describe how living things depend on each other as a source of food. -Use a range of methods (tables, charts, diagrams and Venn diagrams) to gather and record simple data with some accuracy. -Describe the basic life cycles of some familiar animals. -Begin to notice patterns and relationships in their data and explain what they have done and found out using simple scientific language.

	predictions for what might happen and suggesting ways to answer their questions. -Begin to notice patterns and relationships in their data and explain what they have done and found out using simple scientific language. -Observe living-things and changes over time, sorting and grouping them based on their features and explaining their reasoning.	accuracy. -Describe what animals, including humans need to survive. -Interpret and construct simple food chains to describe how living things depend on each other as a source of food. -Observe living-things and changes over time, sorting and grouping them based on their features and explaining their reasoning. -Follow a set of instructions to perform a range of simple tests, making simple predictions for what might happen and suggesting ways to answer their questions.	Venn diagrams) to gather and record simple data with some accuracy. -Follow a set of instructions to perform a range of simple tests, making simple predictions for what might happen and suggesting ways to answer their questions. -Begin to notice patterns and relationships in their data and explain what they have done and found out using simple scientific language. -Compare the suitability of a range of everyday materials for particular uses. -Ask and answer scientific questions. -Use simple equipment to measure and make observations.	how seeds and bulbs change over time as they grow into mature plants. -Ask and answer scientific questions. -Follow a set of instructions to perform a range of simple tests, making simple predictions for what might happen and suggesting ways to answer their questions. -Use a range of methods (tables, charts, diagrams and Venn diagrams) to gather and record simple data with some accuracy.	
Experiences:		Forest School			Butterfly life cycle observation
Key Vocabulary:	Adult, aerobic exercise, air, balancing exercise, balanced diet, birth,	Adaptation, air, amphibian, animal, bird, camouflage,	Absorbency, absorbent, bend, bendy, cardboard,	Air, bark, basal plate, branch, bulb, deciduous, embryo,	Adult, air, amphibian, arachnid, bird, birth, carnivore, consumer, crustacean, egg, embryo, fish, food, food chain, grow/growth, habitat,

	bone, carbohydrates, coordination, dairy and alternatives, embryo, energy, exercise, fat, food, food group, fruit and vegetables, germ, growth, healthy, heart, human, hydrate, hygiene, juvenile, life cycle, love, lungs, mammal, muscle, nutrient, nutrition, offspring, oils and spreads, omnivore, proteins, reproduction, sense, shelter, space, strengthening exercise, stretching exercise, sugar, survive, sweat, began diet, vegetarian diet, vitamin, water.	carnivore, excretion, fish, food, food chain, growth, habitat, herbivore, identify, invertebrate, living, mammal, mimicry, movement, non-living, nutrient, offspring, omnivore, plant, predator, prey, quill, reproduction, reptile, respiration, sensitivity, shelter, soil, space, temperature, thorn, warning colouration, water, woodland.	clay, fabric, glass, hard, human-made, material, metal, natural, natural resource, object, opaque, paper, plastic, pollution, property, recycle, rock, rough, rubbish, shape, smooth, soft, squash, strength, stretch, stretchy, strong, sustainability, texture, t5ransparent, twist, waterproof, wood.	evergreen, flower, flower bud, fruit, germinate/germination, habitat, leaf, nutrient, plant, root, scales, season, seed, seed coat, shade, soil, stem, sunlight, survive, temperature, tree, trunk, tunic, warmth, water.	hatch/hatching, herbivore, hibernation, insect, interdependent, invertebrate, larva, life cycle, mammal, metamorphosis, microhabitat, migration, mollusk, myriapod, offspring, omnivore, producer, pupa, pupation, reproduce/reproduction, reptile, season, shelter, space, survive, water, worm.
Scientific Vocabulary:	compare, conclusion, data, investigation, method, observe, prediction, question, record, research, results, block graph, describe, diagram, equipment,				