Newbold Church of England Primary School

At Newbold we aim to support each other to live, learn and excel together as a Christian community.

"Therefore encourage one another and build each other up," 1 Thessalonians 5:11

Science Curriculum Map		Autumn		Spring		Summer	
Year A	EYFS	**All about me**	**Toys**	**Amazing Humans**	**Growth**	**Story Telling**	**Seaside**
		Autumn 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. Begin to understand the need to respect and care for the natural environment and all the living things. Explore the world around them. Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around them. **Exploring Materials** 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 the world around them. Describe what they see, hear and feel whilst outside. **Favourite Toys** Explore collections of materials with similar and /or different properties. Talk about what they see using a wide vocabulary. Explore collections of materials with similar and /or different properties. Talk about what they see using a wide vocabulary. **Vehicles** Explore and talk about different forces that they can feel. **Winter** 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. Begin to understand the need to respect and care for the natural environment and all the living things. Explore the world around them. Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around them. **Light/Dark** Explore collections of materials with similar and /or different properties. Talk about what they see using a wide vocabulary. Explore the world around them. Describe what they see, hear and feel whilst outside.		**Food /Keeping Healthy** Begin to understand the need to respect and care for the natural environment and all the living things **Growing up** Continue developing positive attitudes about the differences between people. **Plants** Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant. Explore the world around them. Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around **Animals & Life cycles** Understand the key features of the life cycle of animals. Explore the world around them. Describe what they see, hear and feel whilst outside. **Spring** 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. Begin to understand the need to respect and care for the natural environment and all the living things. Explore the world around them. Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around **PSHE unit Me & My World** Begin to understand the need to respect and care for the natural environment and all the living things.		**The Beach** 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. Begin to understand the need to respect and care for the natural environment and all the living things. Understand the key features of the life cycle of a plant and an animal. Explore the world around them. Describe what they see, hear and feel whilst outside. Talk about similarities and differences between the beach and the plants in Newbold. **Summer** 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. Begin to understand the need to respect and care for the natural environment and all the living things. Explore the world around them. Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around	
		Development Matters age 3-4 year old, Reception Early Learning Goals					
	1&2	**Memory Box**	**Childhood**	**Superheroes**	**Enchanted Woodland**	**Street Detectives**	**Rio De Vida**
		Y1 Everyday Materials This project teaches children that objects are made from materials. They identify a range of everyday materials and their sources. Children		Humans- Growing up, Healthy living, Body parts **Human Senses** This project teaches children that humans are a type of animal, known as a mammal. They name body parts and recognise common structures between		Plants in the local environment including gardens Calke Gardens **Plant parts**	

Science Curriculum Map		Autumn	Spring	Summer
		investigate the properties of materials and begin to recognise that a material's properties define its use. Materials; Natural materials; Human-made materials; Grouping materials; Properties of materials; Venn diagrams; Comparing and testing materials; Working scientifically – Identifying and classifying, Observing changes over time, Comparative test, Pattern seeking, Research **Ask** simple questions and recognise that they can be answered in different ways. **Compare** and group together a variety of everyday materials on the basis of their simple physical properties. **Describe** the simple physical properties of a variety of everyday materials. **Distinguish** between an object and the material from which it is made. **Gather and record** data to help in answering questions. **Identify and classify.** **Identify and name** a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. **Observe** closely, using simple equipment. **Perform** simple tests. **Use** their observations and ideas to suggest answers to questions. **Develop** understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. **Investigation** **What can you remember?** Children play games that test their memory and investigate a strategy that will help them remember more information. **Can you be a superhero?** Children learn about the magnetic properties of different materials and use magnets to perform superhero rescues. **Do all balls bounce?** Children investigate a variety of balls made from different materials. They drop the balls to test their bounciness and see how the surface they land on affects their bounce. **How does it move?** Children use different outdoor toys that have wheels to investigate how forces make the wheels move. **Y2 Use of Everyday Materials** This project teaches children about the uses of everyday materials and how materials' properties make them suitable or unsuitable for specific purposes. They begin to explore how materials can be changed. Identifying materials and their properties; Shaping materials; Uses of materials; Linking properties to use; Sustainability and recycling; Working scientifically – Identifying and classifying, Pattern seeking, Comparative tests, Research	humans and other animals. They learn about the senses, the body parts associated with each sense and their role in keeping us safe. **Perform** simple tests. **Use** their observations and ideas to suggest answers to questions. **Identify, name, draw and label** the basic parts of the human body and say which part of the body is associated with each sense. **Gather and record** data to help in answering questions. **Observe** closely, using simple equipment. **Identify and classify.** **Ask** simple questions and recognise that they can be answered in different ways. **Identify and name** a variety of common animals including fish, amphibians, reptiles, birds and mammals. **Describe and compare** the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). **Investigations** **What can hands do?** Children use their hands to do a series of activities that help them discover what they can do with their sense of touch. **Why do we have two eyes?** Children complete two tests with one eye closed and then both eyes open to understand why humans and other animals have two eyes. **Why do we have teeth?** Children sample different foods to investigate how we use our teeth to eat. Woodland plants and animal habitats Life Cycles **Animal Survival** This project teaches children about growth in animals by exploring the life cycles of some familiar animals. They build on learning about the survival of humans by identifying the basic needs of animals for survival, including food, water, air and shelter. Habitats; Invertebrates and invertebrate groups; Microhabitats; Animal needs for survival; Food chains; Human impact on habitats; Animal offspring; Lifecycles – amphibians, birds, invertebrates, mammals and reptiles; Seasonal changes in animals; Habitat improvements; Working scientifically – Identifying and classifying, Observing changes over time; Pattern seeking; Research **Ask** simple questions and recognise that they can be answered in different ways. **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. **Find** out about and describe the basic needs of animals, including humans, for survival (water, food and air). **Gather and record** data to help in answering questions. **Identify and classify**	This project teaches children about wild and garden plants by exploring the local environment. They identify and describe the basic parts of plants and observe how they change over time. Wild and garden plants; Seasonal changes; Plant parts; Seeds and bulbs; Investigating leaves; Importance of plants; Working scientifically – Identifying and classifying, Observing changes over time, Pattern seeking, Research, Comparative test **Ask** simple questions and recognise that they can be answered in different ways. **Gather and record** data to help in answering questions. **Identify and classify.** **Identify** and describe the basic structure of a variety of common flowering plants, including trees. **Identify and name** a variety of common wild and garden plants, including deciduous and evergreen trees. **Observe** closely, using simple equipment. **Perform** simple tests. **Use** their observations and ideas to suggest answers to questions. **Develop** scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. **Develop** understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. **Investigations** **How does grass grow?** Children observe grass in different conditions to test how important water and light is for it to survive and grow. **Can seeds grow anywhere?** Children plant radish seeds in different materials to find out if compost is essential for them to grow successfully. Habitats (world) Animals in Brazil- including the Rain forest **Animal Parts** This project teaches children about animals, including fish, amphibians, reptiles, birds, mammals and invertebrates. They identify and describe their common structures, diets, and how animals should be cared for. Animals' body parts; Animal groups – amphibians, birds, fish, invertebrates, mammals, reptiles; Carroll and Venn diagrams; Pets; Carnivores, herbivores and omnivores; Earthworms; Working scientifically – Identifying and classifying, Comparative test, Pattern seeking, Research **Ask** simple questions and recognise that they can be answered in different ways. **Describe and compare** the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).

Science Curriculum Map		Autumn	Spring	Summer
		Ask simple questions and recognise that they can be answered in different ways. **Find out** how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. **Gather and record** data to help in answering questions. **Identify and classify.** **Identify and compare** the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. **Observe** closely, using simple equipment. **Perform** simple tests. **Use** their observations and ideas to suggest answers to questions. **Develop** scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.	**Identify and compare** the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. **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. **Notice** that animals, including humans, have offspring which grow into adults. **Observe** closely, using simple equipment. **Perform** simple tests. **Use** their observations and ideas to suggest answers to questions. **Develop** scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. **Investigations** **What's in a bud?** Children dissect buds to see what they contain then predict what will happen to buds on twigs kept in water. **How do leaves change?** Children find leaves and observe how they change from being alive and healthy to broken down and decomposed. **Do snails have noses?** Children observe snails to find out if they have a sense of smell that helps them find food. **What is the lifecycle of a ladybird?** Children learn about and observe key stages of the ladybird life cycle **Do insects have a favourite colour?** Children find out if insects can tell the difference between colours and if they are attracted to some colours more than others.	**Gather and record** data to help in answering questions. **Identify and classify.** **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. **Observe** closely, using simple equipment. **Perform** simple tests. **Use** their observations and ideas to suggest answers to questions. **Develop** scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. **Investigation** **What makes the loudest sound?** Children identify and name everyday materials then put them in a shaker to see which makes the loudest sound, relating this to their properties. .
	Year 3&4 Year 5&6	**Animal Nutrition and the Skeletal System** This project teaches children about the importance of nutrition for humans and other animals. They learn about the role of a skeleton and muscles and identify animals with different types of skeleton. Living things; Carnivores, herbivores and omnivores; Human diet; Human nutrition and food groups; Fatty foods; Seasonal changes in animals' diets; Human skeleton; Joints; Muscles; Skeleton types – endoskeletons and exoskeletons; Working scientifically – Identifying and classifying, observing changes over time, Comparative test, Pattern seeking, Research **Skills are adjusted to reflect appropriate Year Group** **Ask** relevant questions and using different types of scientific enquiries to answer them. Gather, record, classify and present data in a variety of ways to help in answering questions.	**Forces & Magnets** This project teaches children about contact and non-contact forces, including friction and magnetism. They investigate frictional and magnetic forces, and identify parts of a magnet and magnetic materials Pushing and pulling forces; Contact forces; Friction; Force meters; Bar charts; Non-contact forces; Magnetism; Magnetic attraction and repulsion; Magnetic fields; Magnetic properties; Magnetic Earth; Uses of friction and magnetism; Working scientifically – Identifying and classifying, Pattern seeking, Comparative tests, Research **Skills are adjusted to reflect appropriate Year Group** **Ask** relevant questions and using different types of scientific enquiries to answer them.	**Plant Nutrition and Reproduction** This project teaches children about the requirements of plants for growth and survival. They describe the parts of flowering plants and relate structure to function, including the roots and stem for transporting water, leaves for making food and the flower for reproduction. Plant parts; Root systems; Stems; Water transport; Investigating leaves; Life cycle of flowering plants; Flower parts; Researching pollination; Seed formation and dispersal; Variation in plant needs; Working scientifically – Identifying and classifying, Observing changes over time, Pattern seeking, Research, Comparative test. **Skills are adjusted to reflect appropriate Year Group**

Science Curriculum Map		Autumn	Spring	Summer
		Identify differences, similarities or changes related to simple scientific ideas and processes. **Identify** that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. **Identify** that humans and some other animals have skeletons and muscles for support, protection and movement. **Make** systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. **Record** findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Report** on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. **Set up** simple practical enquiries, comparative and fair tests. **Use** results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. **Use** straightforward scientific evidence to answer questions or to support their findings.	**Compare** and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. **Compare** how things move on different surfaces. **Describe** magnets as having two poles. **Gather**, record, classify and present data in a variety of ways to help in answering questions. **Identify** differences, similarities or changes related to simple scientific ideas and processes. **Make** systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. **Notice** that some forces need contact between two objects, but magnetic forces can act at a distance. **Observe** how magnets attract or repel each other and attract some materials and not others. **Predict** whether two magnets will attract or repel each other, depending on which poles are facing. **Record** findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Report** on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Set up simple practical enquiries, comparative and fair tests. **Use** results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. **Use** straightforward scientific evidence to answer questions or to support their findings	**Ask** relevant questions and using different types of scientific enquiries to answer them. **Explore** the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. **Explore** the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. **Gather**, record, classify and present data in a variety of ways to help in answering questions. I**dentify** and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. **Identify** differences, similarities or changes related to simple scientific ideas and processes. **Investigate** the way in which water is transported within plants. systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. **Record** findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Report** on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. **Set up** simple practical enquiries, comparative and fair tests. **Use** results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. **Use** straightforward scientific evidence to answer questions or to support their findings **Light and Shadows** This project teaches children about light and dark. They investigate the phenomena of reflections and shadows, looking for patterns in collected data. The risks associated with the Sun are also explored Light; Light sources and reflectors; Reflective and non-reflective materials; Sun safety and protection; Shadows; Opaque, transparent and translucent materials; Changes in shadows; Working scientifically – Identifying and classifying, Observing changes over time, Comparative tests, Pattern seeking, Research **Skills are adjusted to reflect appropriate Year Group** **Ask** relevant questions and using different types of scientific enquiries to answer them. Find patterns in the way that the size of shadows change. **Gather**, record, classify and present data in a variety of ways to help in answering questions. **Identify** differences, similarities or changes related to simple scientific ideas and processes. **Make** systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.

Science Curriculum Map		Autumn	Spring	Summer
				Notice that light is reflected from surfaces. **Recognise** that light from the sun can be dangerous and that there are ways to protect their eyes. **Recognise** that shadows are formed when the light from a light source is blocked by a solid object. **Recognise** that they need light in order to see things and that dark is the absence of light. **Record** findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Report** on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. **Set up** simple practical enquiries, comparative and fair tests. **Use** results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. **Use** straightforward scientific evidence to answer questions or to support their findings

Science Curriculum Map		Autumn		Spring		Summer	
Year B	EYFS	**AS Year A**					
	1&2	**School Days**	**Moon Zoom**	**Movers and shakers**	**Paws, Claws and Whiskers /** (Animals)	**Bright City, Big Lights**	**Coastlines**
		Muck, Mess and Mixture **Everyday materials; Working scientifically** **Find out** how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. **Identify and compare** the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. **Observe** closely, using simple equipment. **Perform** simple tests. **Use** their observations and ideas to suggest answers to questions. **Develop** understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. **Investigations** **What keeps us dry?** Children test a range of materials to see which are waterproof. **How does it feel?** Children investigate the properties of different everyday household materials using their sense of touch. **Which stuff is stickier?** Children investigate different substances to see how effective they are as glue **What shape is a bubble?** Children create different bubble wands to investigate and identify a bubble's shape. **Weather** **Seasonal Changes** This project teaches children about the seasons, seasonal changes and typical seasonal weather and events. They learn about measuring the weather and the role of a meteorologist. Children begin to learn about the science of day and night and recognise that the seasons have varying day lengths in the UK. Seasons; Seasonal changes in deciduous and evergreen trees; Seasonal changes in animals; Weather; Seasonal weather; Day length; Investigating the Sun; Measuring wind; Measuring temperature; Measuring precipitation; Weather forecasting; Working scientifically – Observing changes over time, Identifying and classifying, Pattern seeking, Comparative test, Research **Ask** simple questions and recognise that they can be answered in different ways.		**Humans Growing up, Healthy living, Body parts** **Human Survivors** This project teaches children about the basic needs of humans for survival, including the importance of exercise, nutrition and good hygiene. They learn how human offspring grow and change over time into adulthood. Human life cycle; Human needs for health and survival; Healthy lifestyle; Bodily hygiene routines; Handwashing investigation; How germs spread; Working scientifically – Identifying and classifying, Observing changes over time, Comparative test, Pattern seeking, Research **Ask** simple questions and recognise that they can be answered in different ways. **Describe** the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. **Find out** about and describe the basic needs of animals, including humans, for survival (water, food and air). **Gather and record** data to help in answering questions. **Identify and classify.** **Notice** that animals, including humans, have offspring which grow into adults. **Observe** closely, using simple equipment. **Perform** simple tests. **Use** their observations and ideas to suggest answers to questions. **Investigations** **How do germs spread?** Children observe how easily germs can spread through direct and indirect contact. **Why should I exercise?** Children learn about the heart and heart rate then complete physical activities that allow them to see the effect exercise has on our body. Animal Habitats in different climates Local and across the world Food Chains & Classifying animals **Habitats** This project teaches children about habitats and what a habitat needs to provide. They explore local habitats to identify and name living things and begin to understand how they depend on one another for food and shelter.		**Uses of materials** **Towers, turrets and Tunnels** Teach children about design, structures and materials. This project develops children's knowledge of how to successfully design and build model bridges and buildings. Habitats; Everyday materials; Working scientifically **Gather and record** data to help in answering questions. **Identify and classify.** Identify and name a variety of plants and animals in their habitats, including microhabitats. **Observe** closely, using simple equipment. **Perform** simple tests. **Use** their observations and ideas to suggest answers to questions. **Investigation** **How do you make bread?** Children learn how to make bread dough then bake it for varying lengths of time to see how it changes. **How do you make a paper bridge?** Children learn how we can make weak, flexible materials stronger and more rigid by changing their shape. **Habitats (Costal plants and animals)** **Beachcombers** Develop children's knowledge of coastal features. Children observe, identify and classify seaside plants and animals, and learn about habitats, food chains and environmental issues. Habitats; Living and non-living things; Food chains; Basic needs of animals; Working scientifically **Ask** simple questions and recognise that they can be answered in different ways. **Explore and compare** the differences between things that are living, 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** how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	

Science Curriculum Map		Autumn	Spring	Summer
		Gather and record data to help in answering questions. **Identify and classify.** **Identify and name** a variety of common wild and garden plants, including deciduous and evergreen trees. **Observe and describe** weather associated with the seasons and how day length varies. **Observe** changes across the four seasons. **Observe** closely, using simple equipment. **Perform** simple tests. **Use** their observations and ideas to suggest answers to questions. **Develop** scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. **Develop** understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. **Investigations** **How big is a raindrop?** Children collect raindrops during a rain shower to see how they vary in size **How wild is the wind?** Children measure the direction and force of the wind over the course of a week. **How do plants grow in winter?** Children observe how plants grow from bulbs and learn why plants that grow from bulbs can start growing in winter. **Are all leaves the same?** Children find out about leaves and test each other to describe and draw how they are different. **Do pine cones know it is raining?** Children observe how pine cones change in different weather conditions.	**Perform** simple tests. **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. **Use** their observations and ideas to suggest answers to questions. **Gather and record** data to help in answering questions. **Explore and compare** the differences between things that are living, dead, and things that have never been alive. **Observe** closely, using simple equipment. **Identify and classify.** **Ask** simple questions and recognise that they can be answered in different ways. **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. **Investigations** **Can you leap like a frog?** Children investigate features and abilities they have in common with other animals. **What is camouflage for?** Children work in teams to find paper butterflies placed in their local environment to learn why camouflage is a useful adaptation for animals. **What can worms sense?** Children collect earthworms from their environment then conduct a series of tests to investigate the earthworms' senses.	**Gather and record** data to help in answering questions. **Identify and classify**. **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** closely, using simple equipment. **Perform** simple tests. **Use** their observations and ideas to suggest answers to questions. **Investigations** **How many arms does an octopus have?** Children explore the external anatomy of an octopus. They identify how its different parts help it to live and compare them to humans and other animals. **Will it degrade?** Children observe the differences between the degradable properties of alive, dead and never been alive materials when they are placed in a jar of salty water for six weeks. **Why do boats float?** Children mould modelling clay into different shapes to test how well they float.
	Year 3&4 Year 5&6	**Food and the Digestive System** This project teaches children about the human digestive system. They explore the main parts, starting with the mouth and teeth, identifying teeth types and their functions. They link this learning to animals' diets and construct food chains to show the flow of energy Producers and consumers; Ecosystems; Food chains and food webs; Changes in ecosystems; Digestive system; Teeth types – incisors, canines, premolars, molars; Teeth health and dental hygiene; Working scientifically – Identifying and classifying, Observing changes over time, Comparative test, Pattern seeking, Research **Skills are adjusted to reflect appropriate Year Group** **Ask** relevant questions and using different types of scientific enquiries to answer them. **Construc**t and interpret a variety of food chains, identifying producers, predators and prey. **Describe** the simple functions of the basic parts of the digestive system in humans.	**States of Matter** This project teaches children about solids, liquids and gases and their characteristic properties. They observe how materials change state as they are heated and cooled, and learn key terminology associated with these processes. Classifying solids, liquids and gases; Unusual materials; Particle theory; Change of state; Melting, freezing, evaporation and condensation; States of water; Measuring temperature; Investigating melting; Line graphs; Researching melting and boiling points; Working scientifically – Observing changes over time, Identifying and classifying, Pattern seeking, Comparative test, Research **Skills are adjusted to reflect appropriate Year Group** **Compare** and group materials together, according to whether they are solids, liquids or gases. **Gather**, record, classify and present data in a variety of ways to help in answering questions.	**Electrical Circuits and Conductors** This project teaches children about electrical appliances and safety. They construct simple series circuits and name their parts and functions, including switches, wires and cells. They investigate electrical conductors and insulators and identify common features of conductors. It also teaches children about programmable devices. They combine their learning to design and make a nightlight Sources of electricity; Electrical devices; Electrical components; Series circuits; Complete and incomplete circuits; Conductivity; Conductors and insulators; Wired plugs; Incandescent light bulbs; Future of electricity; Working scientifically – Identifying and classifying, Pattern seeking, Comparative test, Research **Skills are adjusted to reflect appropriate Year Group** **Ask** relevant questions and using different types of scientific enquiries to answer them.

Science Curriculum Map		Autumn	Spring	Summer
		Gather, record, classify and present data in a variety of ways to help in answering questions. Identify differences, similarities or changes related to simple scientific ideas and processes. **Identif**y the different types of teeth in humans and their simple functions. **Make** systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. **Recognise** that environments can change and that this can sometimes pose dangers to living things. **Record** findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Report** on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. **Set up** simple practical enquiries, comparative and fair tests. **Use** results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. **Use** straightforward scientific evidence to answer questions or to support their findings. **Are** equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. **Sound** This project teaches children about sound and how sounds are made and travel as vibrations through a medium to the ear. They learn about pitch and volume and find out how both can be changed **Details coming soon**	**Identify** differences, similarities or changes related to simple scientific ideas and processes. **Make** systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. **Observe** that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). **Record** findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Report** on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. **Set up** simple practical enquiries, comparative and fair tests. **Use** results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. **Use** straightforward scientific evidence to answer questions or to support their findings. **Grouping and Classifying** This project teaches children about grouping living things, known as classification. They study the animal and plant kingdoms and use and create classification keys to identify living things. Types of classification; Taxonomy; Understanding and creating classification keys; Animal kingdom; Plant kingdom; Classifying new discoveries; Working scientifically – Identifying and classifying, Pattern seeking, Research **Skills are adjusted to reflect appropriate Year Group** **Ask** relevant questions and using different types of scientific enquiries to answer them. **Explore** and use classification keys to help group, identify and name a variety of living things in their local and wider environment. **Gather**, record, classify and present data in a variety of ways to help in answering questions. **Identify** differences, similarities or changes related to simple scientific ideas and processes. **Make** systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. **Recognise** that living things can be grouped in a variety of ways. **Record** findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Report** on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. **Use** results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. **Use** straightforward scientific evidence to answer questions or to support their findings.	**Construct** a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. **Gather**, record, classify and present data in a variety of ways to help in answering questions. **Identify** common appliances that run on electricity. **Identify** differences, similarities or changes related to simple scientific ideas and processes. **Identify** whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. **Make** systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. **Recognise** some common conductors and insulators, and associate metals with being good conductors. **Recognise** that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. **Record** findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Report** on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Set up simple practical enquiries, comparative and fair tests. **Use** results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions **Use** straightforward scientific evidence to answer questions or to support their findings. **Develop** scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.

Science Curriculum Map		Autumn	Spring	Summer
Year C	EYFS	**Repeat A**		
Year C	1&2	**Repeat A**		
	3&4 5&6	**Forces and Mechanisms** This project teaches children about the forces of gravity, air resistance, water resistance and friction, with children exploring their effects. They learn about mechanisms, their uses and how they allow a smaller effort to have a greater effect. Contact and non-contact forces; Gravity; Mass and Weight; Discovering gravity – important scientists; Friction; Air resistance; Water resistance; Mechanisms – levers, pulleys, gears; Investigating forces and mechanisms; Working scientifically – Identifying and classifying, Observing changes over time, Comparative tests, Research, Pattern seeking **Skills are adjusted to reflect appropriate Year Group** **Explain** that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. **Identify** scientific evidence that has been used to support or refute ideas or arguments. **Identify** the effects of air resistance, water resistance and friction, that act between moving surfaces. **Plan** different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. **Recognise** that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. **Record** data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. **Report** and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. **Take** measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. **Use** test results to make predictions to set up further comparative and fair tests. **Earth and Space** This project teaches children about our Solar System and its spherical bodies. They describe the movements of Earth and other planets relative to the Sun, the Moon relative to Earth and the Earth's rotation to explain day and night. **Skills are adjusted to reflect appropriate Year Group**	**Human Reproduction and Ageing** This project teaches children about animal life cycles, including the human life cycle. They explore human growth and development to old age, including the changes experienced during puberty and human reproduction. Animal life cycles; Stages and processes; Classifying mammals; Mammalian life cycles; Interpreting scatter graphs; Human life cycle; Human gestation stage; Human juvenile stage; Human adolescent stage; Puberty; Venn diagrams; Interpreting line graphs; Human sexual reproduction; Human ageing; Working scientifically – Observing changes over time, Identifying and classifying, Pattern seeking, Comparative test, Research **Skills are adjusted to reflect appropriate Year Group** **Describe** the changes as humans develop to old age. **Describe** the differences in the life cycles of a mammal, an amphibian, an insect and a bird. **Describe** the life process of reproduction in some plants and animals. **Identify** scientific evidence that has been used to support or refute ideas or arguments. **Plan** different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. **Record** data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. **Report** and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. **Take** measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. **Use** test results to make predictions to set up further comparative and fair tests. **Develop** scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.	**Properties and Changes of Materials** This project teaches children about the wider properties of materials and their uses. They learn about mixtures and how they can be separated using sieving, filtration and evaporation. They study reversible and irreversible changes, and use common indicators to identify irreversible changes. Properties of materials; Thermal conductivity; Measuring temperature; Thermal insulators; Solubility; Heterogeneous and homogeneous mixtures; Sieving; Filtration; Evaporation; Separating unusual mixtures; Reversible and irreversible changes; Innovative materials; Working scientifically – Identifying and classifying, Observing changes over time, Comparative tests, Research, Pattern seeking **Skills are adjusted to reflect appropriate Year Group** **Compare** and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. **Demonstrate** that dissolving, mixing and changes of state are reversible changes. **Explain** that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. **Give** reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. **Identify** scientific evidence that has been used to support or refute ideas or arguments. **Know** that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. **Plan** different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. **Record** data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. **Report** and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. **Take measurements**, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. **Use** knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. **Use** test results to make predictions to set up further comparative and fair tests. **Develop** scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.

Science Curriculum Map	Autumn	Spring	Summer
Year D	EYFS	**Repeat Year A**		
	1&2	**Repeat Year B**		
	3&4 5&6	**Light Theory** Light facts; How light travels; Light, sight and the human eye; Visible light; Perceiving colour; Shadows; Reflections; Plane, concave and convex mirrors; Measuring light; Refraction; Working scientifically – Identifying and classifying, Comparative tests, Pattern seeking, Research **Skills are adjusted to reflect appropriate Year Group** **Explain** that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. **Identify scientific evidence** that has been used to support or refute ideas or arguments. **Plan different types** of scientific enquiries to answer questions, including recognising and controlling variables where necessary. **Recognise that light** appears to travel in straight lines. **Record data and results** of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. **Report and present** findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. **Take measurements**, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. **Use test results** to make predictions to set up further comparative and fair tests. Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. **Use the idea** that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. **Are equipped** with the scientific knowledge required to understand the uses and implications of science, today and for the future. **Develop scientific knowledge** and conceptual understanding through the specific disciplines of biology, chemistry and physics. **Evolution and Inheritance** This project teaches children how living things on Earth have changed over time and how fossils provide evidence for this. They learn how characteristics are passed from parents to their offspring and how variation in offspring can affect their survival, with changes (adaptations) possibly leading to the evolution of a species. **Skills are adjusted to reflect appropriate Year Group**	**Electrical Circuits and Components** This project teaches children about electrical circuits, their components and how they function. They recognise how the voltage of cells affects the output of a circuit and record circuits using standard symbols. It also teaches children about programmable devices, sensors and monitoring. They combine their learning to design and make programmable home devices. Series circuits; Circuit components; Recognised circuit symbols; Investigating circuit components; Electric current; Voltage; Researching cells and batteries; Investigating voltage changes; Working scientifically – Identifying and classifying, Pattern seeking, Comparative test, Research **Skills are adjusted to reflect appropriate Year Group** **Associate** the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. **Compare and give reasons** for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. **Identify scientific evidence** that has been used to support or refute ideas or arguments. **Plan different types** of scientific enquiries to answer questions, including recognising and controlling variables where necessary. **Record data and results** of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. **Report and present** findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. **Take measurements,** using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. **Use recognised symbols** when representing a simple circuit in a diagram. **Use test results** to make predictions to set up further comparative and fair tests.	**Circulatory System** This project teaches children about the transport role of the human circulatory system, its main parts and primary functions. They learn about healthy lifestyle choices and the effects of harmful substances on the body. Bodily systems; Circulatory system – role and main parts; Heart – structure and function; Blood – components and functions; Blood vessels – structure and function; Measuring heart rate; Proving a hypothesis; Heart rate investigation; Classifying foods; Effects of smoking, alcohol and drugs; Heart rate recovery investigation; Working scientifically – Identifying and classifying, Comparative test, Pattern seeking, Research **Skills are adjusted to reflect appropriate Year Group** **Describe** the ways in which nutrients and water are transported within animals, including humans. **Identify and name** the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. **Identify** scientific evidence that has been used to support or refute ideas or arguments. **Plan** different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. **Recognise** the impact of diet, exercise, drugs and lifestyle on the way their bodies function. **Record data** and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. **Report and present** findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. **Take measurements**, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. **Use test results** to make predictions to set up further comparative and fair tests.

Science Curriculum Map		Autumn	Spring	Summer
		Five kingdoms, microorganisms and viruses; Classifying fossils; Theory of evolution and evolutionary tree diagrams; Inheritance and variation – continuous and discontinuous variation; Natural selection and survival of the fittest; Adaptations in birds' beaks; Adaptations in plants; Artificial selection; Testable hypothesis; Working scientifically – Identifying and classifying, Comparative test, Pattern seeking, Research **Describe how living things** are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. **Identify how animals and plants** are adapted to suit their environment in different ways and that adaptation may lead to evolution. **Identify scientific evidence** that has been used to support or refute ideas or arguments. **Plan different types** of scientific enquiries to answer questions, including recognising and controlling variables where necessary. **Recognise that living things** have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. **Recognise that living things** produce offspring of the same kind, but normally offspring vary and are not identical to their parents **Record data and results** of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. **Report and present findings** from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. **Take measurements**, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. **Use test results** to make predictions to set up further comparative and fair tests.		