Curriculum progression overview for science

This should be used alongside the EYFS Long Term Plan which breaks down each area of the EYFS and intended learning for each term. Each area of the EYFS is also reflected throughout the continuous provision within the learning environment both inside and outside – this enables children to be independent in their own learning and practice and develop skills taught.			
EYFS Area for History	Key skills/knowledge – What do you want children to know by the end of EYFS (Intent)	How we teach it – Topics / curricular goals (implementation)	Early Learning Goal – Where children will be by the end, the ELGs achieved (impact)
Understanding the world. Literacy. Communication and language. PSED (sense of self).	Pose questions about the world around them Use their previous knowledge to make predictions and observations Talk about plants and trees in the local area Begin to know how to look after a seed and plant Know the names of a variety of animals and begin to understand they live in different places Begin to understand what happens in a life cycle by observing a caterpillar-butterfly Begin to talk about what something is made from and recognise different materials Investigate how things move and the effect we can have on them e.g. pushing them harder or going down a ramp Observe and talk about the sun and shadows Listen carefully and identify different sounds Talk about the different seasons and what happens in each of them	Topic called 'What seed am I growing?' – this includes looking after plants, planting seeds, looking at seeds in fruits A weekly muddy walk enables children to explore the environment in different seasons and also name the local trees and plants Talk about the weather Topic 'Can we have a pet penguin?' Focus on animals Night and day animals Fun at the seaside – looking at animals under the sea	The natural world. Comprehension. Writing.

Curriculum progression overview for science

Year 1	Autumn Term	Spring Term	Summer Term
Topic	**Year A – Castles** **Year B – Fire, Fire**	**Year A - Back to future** **Year B – Bright Lights, Big City**	**Year A – Land Ahoy** **Year B – Tribal Tales**
Science **Key:** **Main teaching of objective.** **Pre-teaching/ wider curriculum.** **Re-visiting / wider curriculum.**	**Plants –** identify and classify *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 and humans –** exercise/food (PSHE) *Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.* **Earth and Space –** Look at seasonal changes *Observe changes across the four seasons* *Observe and describe weather associated with the seasons and how day length varies.* **Materials** – identify name and describe *Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock* *Distinguish between an object and the material from which it is made* **Materials –** describe, classify and compare properties and changes *Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses* **Sound –** *Identify how sounds are made, associating some of them with something vibrating*	**Materials -** look at practical uses of 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.* Continual to observe changes across seasons *Observe changes across the four seasons* *Observe and describe weather associated with the seasons and how day length varies.* *Forces – describe movements* *Compare how things move on different surfaces* *Notice that some forces need contact between two objects* *Electricity – look at appliances and circuits* *Identify common appliances that run on electricity*	**Animals and Humans –** identify, classify and observe Look at Growth and basic needs *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)* *Identify and name a variety of common animals that are carnivores, herbivores and omnivores* Continual to observe changes across seasons *Observe changes across the four seasons* *Observe and describe weather associated with the seasons and how day length varies.* **Plants –** Observe and describe growth and conditions *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.* **Habitats** – Look at the Suitability of environments *Identify animals in their habitats, including micro-habitats*
Year 1 working scientifically	*Ask simple questions.* *Observe closely.* *With support, perform simple tests.* *With support, use observations and ideas to suggest answers to questions.*		

Curriculum progression overview for science

Year 2	Autumn Term	Spring Term	Summer Term
Topic	**Year A – Castles** **Year B – Fire, Fire**	**Year A - Back to future** **Year B – Bright Lights, Big City**	**Year A – Land Ahoy** **Year B – Tribal Tales**
Key: **Main teaching of objective.** **Pre-teaching/ wider curriculum.** **Re-visiting / wider curriculum.**	**Animals and humans –** exercise/food (PSHE) *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.* **Plants –**classify and describe their basic structure *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.* **Earth and Space –** Look at seasonal changes *Observe changes across the four seasons observe and describe weather associated with the seasons and how day length varies.* **Materials –** describe, classify and compare properties and changes *Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses* **Sound –** *Identify how sounds are made, associating some of them with something vibrating*	**Materials** – recap practical uses of everyday materials *Describe the simple physical properties of a variety 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.* **Forces** - describe basic movements *Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching* **Plants –** Observe and describe growth and conditions *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.* Continual to observe changes across seasons *Observe changes across the four seasons observe and describe weather associated with the seasons and how day length varies.*	**Habitats** – Look at the Suitability of environments and at food chains *Describe and compare the differences between things that are living, dead and things that have never been alive.* *Explore Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other* *Identify and name a variety of plants and animals in their habitats, including micro-habitats* *Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.* **All living things –** investigate differences *Explore and compare the differences between things that are living, dead, and things that have never been alive* *Notice that animals, including humans, have offspring which grow into adults* Continual to observe changes across seasons *Observe changes across the four seasons observe and describe weather associated with the seasons and how day length varies.*
Year 2 working scientifically	*Observe closely, using simple equipment; Perform simple tests; Identify and classify.* *Use observations and ideas to suggest answers to questions.* *Gather and record data to help in answering questions.*		

Curriculum progression overview for science

Year 3	Autumn Term	Spring Term	Summer Term
Topic	**Year A: Ancient Civilisations** **Year B: Invasions**	**Year A: Tomorrow's World** **Year B: Blue Planet**	**Year A: Survival** **Year B: Magnificent Monarchs**
Science **Key:** **Main teaching of objective.** **Pre-teaching/ wider curriculum.** **Re-visiting / wider curriculum.**	**Animals and Humans** Nutrition, Skeletons *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.* **Rocks/soils –** *Compare and group rocks together different kinds of rocks on the basis of their appearance and simple physical properties* *Describe in simple terms how fossils are formed when things that have lived are trapped within rock* *Recognise that soils are made from rocks and organic matter* **Electricity –** look at common appliances, *Identify common appliances that run on electricity* **Sound (link to music)** Look at sources and how sounds are made, how it travels	**Forces and magnets –** Contact and distant forces, attraction and repulsion, comparing and grouping materials Look at poles, attraction and repulsion *Compare how things move on different surfaces* *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* *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* *Describe magnets as having two poles* *predict whether two magnets will attract or repel each other, depending on which poles are facing.* **Evolution and Inheritance -** adaptation to environments (pre-teach – linked to environmental) **Habitats** - Changing environments pose danger to living things *Recognise that environments can change and that this can sometimes pose dangers to living things.* **Recap naming plants** (revision – From Yr1 and link to environmental changes) *Identify and name a variety of common wild and garden plants and structure of flowering plants*	**Plants** Look at the functions of parts of flowering plants, growth Requirement of growth and seed dispersal Life cycle of flowering plant *Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers* *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* *Investigate the way in which water is transported within plants* *Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.* **light and seeing –**shadows, dark is the absence of light, how the eye sees *Recognise that they need light in order to see things and that dark is the absence of light* *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* *Find patterns in the way that the size of shadows change*
Year 3 working scientifically	*Ask relevant questions; Set up simple, practical enquiries and comparative and fair tests; Make accurate measurements using standard units, using a range of equipment, e.g. thermometers and data loggers; Gather, record, classify and present data in a variety of ways to help in answering questions;* *Record findings using simple scientific language, drawings and labelled diagrams;* *Report on findings from enquiries, including oral and written explanations.*		

Curriculum progression overview for science

Year 4	Autumn Term	Spring Term	Summer Term
Topic	Year A: Ancient Civilisations Year B: Invasions	Year A: Tomorrow's World Year B: Blue Planet	Year A: Survival Year B: Magnificent Monarchs
Key: Main teaching of objective. Pre-teaching/ wider curriculum. Re-visiting / wider curriculum.	**Diet and Exercise Look at the Digestive system in humans. Teeth** *Describe the simple functions of the basic parts of the digestive system in humans* *Identify the different types of teeth in humans and their simple functions* **Electricity – look at appliances, series circuits, lamps, switches, insulators, conductors** *Identify common appliances that run on electricity* *Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers* *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* *Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit* *Recognise some common conductors and insulators, and associate metals with being good conductors.* **Sound (link to music)- Look at sources and how sounds are made, how it travels** *Identify how sounds are made, associating some of them with something vibrating* *Recognise that vibrations from sounds travel through a medium to the ear* *Find patterns between the volume of a sound and the strength of the vibrations that produced it* *Recognise that sounds get fainter as the distance from the sound source increases*	**Properties of Materials** Compare and group, states of matter and changes in state *Compare and group materials together, according to whether they are solids, liquids or gases* *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)* **Evolution and Inheritance -** adaptation to environments (pre-teach – linked to environmental) *Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.* **Habitats** - Changing environments pose danger to living things *Recognise that environments can change and that this can sometimes pose dangers to living things.* **Recap naming plants** (revision – From Yr1 and link to environmental changes) *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.*	**Habitats** Classification, growing things e.g. plants that attract bees/butterflies, herbs, trees from around the world (coniferous). Crop rotation. *Recognise that living things can be grouped in a variety of ways* *Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment* *Recognise that environments can change and that this can sometimes pose dangers to living things.* *Construct and interpret a variety of food chains, identifying producers, predators and prey* **States of matter -** water cycle – evaporation and condensation *Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.* **Evolution and Inheritance** Look at the resemblance in offspring changes to the skeleton when you age i.e. a baby has more bones than an adult (Recap) links to PSHE *Explain how the human skeleton has changed over time.*

Curriculum progression overview for science

Year 4 working scientifically	Record findings using simple scientific language, drawings, labelled diagrams, 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 and suggest improvements, new questions and predictions for setting up further tests; Identify differences, similarities or changes relate to simple, scientific ideas and processes.

Curriculum progression overview for science

Year 5	Autumn	Spring	Summer
	Year A: Hola Mexico! **Year B: Britain through the decades**	**Year A: Marvellous Muggle and Harry Potter** **Year B: Reach for the Stars**	**Year A: A place I call home** **Year B: Kingdoms: people/animals**
Key: Main teaching of objective. **Pre teaching/ wider curriculum.** **Re-visiting / wider curriculum**	**All Living things** effect of diet and exercise Human circulatory system - Heart and major organs *Recognise the impact of diet and exercise on the way their bodies function* *Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood* **Evolution and inheritance –** revision linked to **PHSE** effect of the diet *To understand the impact of healthy life-style on long term human development.* **Sound (link to music)** Look at sources, vibration, volume and pitch Pattern of pitch and sound (revision of Year 4 Science) **Forces** – recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect *Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.*	**Forces –** Look at the effect of Gravity and drag forces *Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object* *Identify the effects of air resistance, water resistance and friction, that act between moving surfaces* **Solar System –** Look at the movement of the earth, moon and planets *Describe the movement of the Earth, and other planets, relative to the Sun in the solar system* *Describe the movement of the Moon relative to the Earth* *Describe the Sun, Earth and Moon as approximately spherical bodies* *Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.* **Classification –** adaptation and suited to different environments (e.g. moon) **Light -** explain how light appears to travel in straight lines and how this affects seeing and shadows **Electricity** –parallel circuits the effects of voltage in cells and the resistance and conductivity of materials *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* *Use recognised symbols when representing a simple circuit in a diagram.*	**Revise plants –** life cycles, parts and functions Reproduction of plants and other animals – link to PSHE **States of matter** - revision of water cycle (link to geography) **Cell structure of materials** solids, liquids and gases changes of state, evaporation– mixtures *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* **Forces**- link to DT – transference of force in gears pulleys etc *Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.*

Curriculum progression overview for science

Year 5 working scientifically	Plan enquiries, including recognising and controlling variables where necessary. Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work. Take measurements using a range of scientific equipment, with increasing accuracy and precision. Report findings from enquiries, including oral and written explanations of results. Present findings in written form, displays and other presentations.

Curriculum progression overview for science

Year 6	Autumn	Spring	Summer
	Year A: Hola Mexico! **Year B: Britain through the decades**	**Year A: Marvellous Muggle and Harry Potter** **Year B: Reach for the Stars**	**Year A: A place I call home** **Year B: Kingdoms: people/animals**
Key: Main teaching of objective. **Preteaching/ wider curriculum.** **Re-visiting / wider curriculum.**	**All Living things** Effect of drugs All systems of body including blood cells *Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood* *Describe the ways in which nutrients and water are transported within animals, including humans.* **Evolution and inheritance** - Difference in offspring *Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents* **Fossils** – describe the formation of fossils using DNA digital images *Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago* **Sound (link to music)** (revision of Year 4 Science) Patterns of volume and strength of vibrations	**Forces** – Look at the effect of Gravity and drag forces **Solar System** – Look at the movement of the earth, moon and planets **Classification** – adaptation and evolutions to different environments (e.g. moon) *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* *Give reasons for classifying plants and animals based on specific characteristics.* **Micro organisms** (relate to previous learning of medicines) *Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function* **Electricity** – How does amount of electricity affect different components *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* *Use recognised symbols when representing a simple circuit in a diagram.* **Light** *Recognise that light appears to travel in straight lines* *Explain how we see things – light sources– eyes-objects* *explain why shadows have same shape as objects cast on them*	Reproduction of humans – link to PSHE Revision of adaptation and plants linked with Forest School *Describe the changes as humans develop to old age.* *Describe the life process of reproduction in some plants and animals.*

Curriculum progression overview for science

Year 6 working scientifically	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models. Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions. Present findings in written form, displays and other presentations. Use test results to make predictions to set up further comparative and fair tests. Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.