Curriculum Map for Science

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS						
1	Memory Box	Moon Zoom	Bright Lights, Big city	Dinosaur Planet	Splendid Skies	Superheroes
	Use their observations and ideas to suggest and answer 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	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 -find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	distinguish between an object and the material from which it is made use their observations and ideas to suggest answers to questions.	Animals including humans -identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates -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 (birds, fish, amphibians, reptiles, mammals and invertebrates, and including pets)	Plants -identify and name a variety of common plants, including garden plants, wild plants and trees, and those classified as deciduous and evergreen -identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers. -Seasonal changes	**Seasonal changes**

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2	Land Ahoy!	Beat Band Boogie	Muck, Mess and Mixtures	Wriggle and Crawl	Towers, Tunnels and Turrets	The Scented Garden
	Everyday Materials; Working Scientifically. **Sc EM 1** Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses **Sc EM 2** Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	Sound; working scientifically. Gather data, record and talk about their findings, in a range of ways, using simple scientific vocabulary. **Sc WS 5** Use their observations and ideas to suggest answers to questions. **Sc WS 3** Perform simple tests **Sc WS 6** Gather and record data to help in answering questions. **Sc WS 4** Identify and classify.	**Sc WS 6** Gather and record data to help in answering questions. **Sc WS 3** Perform simple tests **Sc WS 2** Observe closely, using simple equipment. **Sc WS 5** Use their observations and ideas to suggest answers to questions **Sc EM 2** Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	**Sc LT 3 Identify and name a variety of plants and animals in their habitats, including micro-habitats.** **Sc A 2** Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). **Sc WS 1** Ask simple questions and recognise that they can be answered in different ways. **Sc WS 3** Perform simple tests. **Sc WS 5** Use their observations and ideas to suggest answers to questions. **Sc A 1 Notice that animals, including humans, have offspring which grow into adults.**	**Sc EM 1** Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Sc WS 2, 3, 5, 6 **Sc LT 2** 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. Sc LT 3; Ge SF 4; Co 4 Sc WS 4 Identify and classify Sc WS 4 Perform simple tests.	**Sc LT 3 Identify and name a variety of plants and animals in their habitats, including micro-habitats.** **Sc LT 1** Explore and compare the differences between things that are living, dead, and things that have never been alive. **Sc WS 3** Perform simple tests. **Sc LT 2 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.** **Sc LT 4** 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. **Sc WS 2** Observe closely, using simple equipment. **Sc WS 4** Identify and classify. **SC A 2** Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). **Sc WS 5** Use their observations and ideas to suggest answers to questions.

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3	Gods and Mortals	Scrumdiddlyumptious!	Tremors	Mighty Metals	Urban Pioneers	Predator!
	Scientist Study: Link to Ancient Greece: Archimedes etc. Link to Literacy - explanation and biography writing. ▪ *reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions* ▪ *asking relevant questions and using different types of scientific enquiries to answer them* ▪ *setting up simple practical enquiries, comparative and fair tests*	Animals including Humans: 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. ▪ *gathering, recording, classifying and presenting data in a variety of ways to help in answering questions* ▪ *recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables* ▪	Rocks and soils: compare and group 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. ▪ *reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions* ▪ *using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions*	Forces and Magnets: 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 ▪ *asking relevant questions and using different types of scientific enquiries to answer them* ▪	Light: 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. ▪ *setting up simple practical enquiries, comparative and fair tests* ▪ *making systematic and careful observations and,*	Plants: 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. ▪ *gathering, recording, classifying and presenting data in a variety of ways to help in answering questions*

			▪ *identifying differences, similarities or changes related to simple scientific ideas and processes* *using straightforward scientific evidence to answer questions or to support their findings.* ▪		*where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers*	▪ *recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables*
4	**Burps, Bottoms and Bile**	**1066**	**Potions**	**Misty Mountain Sierra**	**Playlist**	**Road Trip USA**
	Sc WS 2 Set up simple practical enquiries, comparative and fair tests. Sc WS 3 Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Sc A 2 Identify the different types of teeth in humans and their simple functions. Sc WS 8 Identify differences, similarities or changes related to simple scientific ideas and processes. Sc WS 5 Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Sc WS 9 Use	**Scientist Study – Isambard Kingdom Brunel** Identify and name a variety of living things (plants and animals) in the local and wider environment, using classification keys to assign them to groups. 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.	Sc SM 1 Compare and group materials together, according to whether they are solids, liquids or gases. Sc WS 2 Set up simple practical enquiries, comparative and fair tests. Sc WS 3 Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, e.g. thermometers and data loggers. Sc WS 7 Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Sc WS 6 Report on findings from enquiries, including oral and written explanations, displays or	Sc SM 3 Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Sc SM 2 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). Sc WS 2 Set up simple practical enquiries, comparative and fair tests. Sc WS 5 Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	Sc S 4 Find patterns between the volume of a sound and the strength of the vibrations that produced it. Sc S 1 Identify how sounds are made, associating some of them with something vibrating. Sc S 2 Recognise that vibrations from sounds travel through a medium to the ear. Sc S 3. Find patterns between the pitch of a sound and features of the object that produced it. Sc S 5 Recognise that sounds get fainter as the distance increases	ScE1 Identify common appliances that run on electricity Sc E2 Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. ScE3 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. ScE4 Recognise that a switch opens and closes a circuit and associate this with whether a lamp lights or not in a simple series circuit. ScE5 Recognise common conductors and insulators, and associate metals with

	straightforward scientific evidence to answer questions or to support their findings. Sc A 1 Describe the simple functions of the basic parts of the digestive system in humans. Sc WS 4 Gather, record, classify and present data in a variety of ways to help in answering questions.		presentations of results and conclusions. Sc WS 5 Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Sc SM 2 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). Sc WS 9 Use straightforward scientific evidence to answer questions or to support their findings.			being good conductors.
5	**Pharaohs**	**Off with her Head**	**Scream Machine**	**Time Traveller**	**Stargazers**	**Allotment**
	Properties and Changes of Materials -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 -Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution -Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating -Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic -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. **Non-statutory:** Pupils should build a more systematic understanding of materials by exploring and comparing the properties of a broad range of		**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 -Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. **Non-statutory:** Pupils should explore falling objects and raise questions about the effects of air resistance. They should explore the effects of air resistance by	**Animals including humans** Describe the changes as humans develop to old age **Non-statutory:** Pupils should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced during puberty Pupils could work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows. **SEX ED** Discuss what it is like to be an	**Earth & Space** -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. **Non-statutory:** Pupils should be introduced to a model of the Sun and Earth that enables them to explain day and night. Pupils should learn that the Sun is a star at	**Living Things & their Habitats** -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. **Non-statutory:** Pupils should study and raise questions about their local environment throughout the year. They should observe life-cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local environment. They should find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane

	materials, including relating these to what they learnt about magnetism in year 3 and about electricity in year 4. They should explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. Pupils should explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda. They should find out about how chemists create new materials, for example, Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton. **Note:** Pupils are not required to make quantitative measurements about conductivity and insulation at this stage. It is sufficient for them to observe that some conductors will produce a brighter bulb in a circuit than others and that some materials will feel hotter than others when a heat source is placed against them. Safety guidelines should be followed when burning materials. Pupils might work scientifically by: carrying out tests to answer questions, for example, 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?' They might compare materials in order to make a switch in a circuit. They could observe and compare the changes that take place, for example, when burning different materials or baking bread or cakes. They might research and discuss how chemical changes have an impact on our lives, for example, cooking, and discuss the creative use of new materials such as polymers, super-sticky and super-thin materials.	observing how different objects such as parachutes and sycamore seeds fall. They should experience forces that make things begin to move, get faster or slow down. Pupils should explore the effects of friction on movement and find out how it slows or stops moving objects, for example, by observing the effects of a brake on a bicycle wheel. Pupils should explore the effects of levers, pulleys and simple machines on movement. Pupils might find out how scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation. Pupils might work scientifically by: exploring falling paper cones or cup-cake cases, and designing and making a variety of parachutes and carrying out fair tests to determine which designs are the most effective. They might explore resistance in water by making and testing boats of different shapes. They might design and make products that use levers, pulleys, gears and/or springs and explore their effects.	adult Understand how and why we change as we get older Think about how to make good choices as we grow up Discuss the meaning of love Think about 'going out' and getting married Understand the marriage vows	the centre of our solar system and that it has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006). They should understand that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones). **Note:** Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses. Pupils should find out about the way that ideas about the solar system have developed, understanding how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen and Copernicus. Pupils might work scientifically by: comparing the time of day at different places on the Earth through internet links and direct communication; creating simple models of the solar system; constructing simple shadow clocks and sundials, calibrated to show midday and the start and end of the school day; finding out why some people think that structures such as Stonehenge might have been used as astronomical clocks.	Goodall. Pupils should find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals. Pupils might work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences. They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. They might observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow.

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6	Children at War	Darwin evolution / Shakespeare	Frozen Kingdoms	Circulation/ The Heart	Habitats and Adaptations	ID
	▪ 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. ▪	▪ identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood ▪ recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function describe the ways in which nutrients and water are transported within animals, including humans.	▪ 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 identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	▪ recognise that light appears to travel in straight lines ▪ 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 ▪ 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 ▪ use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	▪ 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.	**Sex Education** **Recap** the definition of puberty and hormones **Look at** how the body changes during puberty **Discover** how a baby is formed from conception to birth **Discuss** what makes a good friend **Think about** these qualities in marriage **Understand** the different roles of men and women in marriage