Science Building Blocks Progression Map

1	Animals including humans	Investigating materials	Investigating plants Investigating the seasons
BB links	**Animals including humans** I know what fish, amphibians, reptiles, birds and mammals are I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals I know what carnivores, herbivores and omnivores are I can identify and name a variety of common animals that are carnivores, herbivores and omnivores I can describe and compare the structure of a variety of common animals I can describe and compare the structure of a variety of common animals including fish, amphibians, reptiles, birds and mammals, including pets I can identify, name, draw and label the basic parts of the human body I know which body parts are associated with the senses I can name the 5 senses and what they are used for	**Investigating materials** I can describe an object and identify the material it is made of I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock I can describe the simple physical properties of a variety of everyday materials I can compare and group together a variety of everyday materials on the basis of their simple physical properties.	**Plants** I can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees I know what deciduous and evergreen mean I can identify and describe the basic structure of a variety of common flowering plants, including trees **Investigating seasons** I can name the four seasons I can describe the changes that happen across the four seasons I can describe the weather of each of the four seasons I can describe what happens to the length of the day during the four seasons
Working scientifically	I am beginning to collect evidence to try and answer a question in science With some help, I can test out some ideas suggested to me I can share my findings in simple different ways e.g. talking about my work, drawing pictures or completing pictograms I can gather and record information I have found out in different ways I can carry out investigations I can measure in non-standard units e.g. hand span, unifix cubes etc. I can observe things closely using some simple equipment I can gather and record information I have found out in different ways I can share my findings in simple different ways e.g. talking about my work, drawing pictures or completing pictograms		

Science Building Blocks Progression Map

2	Investigating living things and their habitats.	Investigating Changing Materials	Investigating plants Investigating Animals including humans
BB links	**Living things and their habitats** I can describe the difference between things that are living, dead, and things that have never been alive I can 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 I can identify and name a variety of plants and animals in their habitats, including micro-habitats I can describe how animals obtain their food from plants and other animals I can describe a variety of food chains and identify and name different sources of food.	**Investigating Changing Materials** I can identify a range of materials including wood, metal, plastic, glass, brick, rock, paper and cardboard and what these materials are suitable for things I know some materials and can describe some of their properties I can describe similarities and differences between materials I can sort materials into groups and describe why I chose the groupings such as hardness or shininess I can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. I can make a variety of simple circuits using batteries, bulbs and wire I can compare the way in which devices such as bulbs work in different electrical circuits	**Animals Including humans** I know that living things grow and reproduce and that animals, including humans, have offspring which grow into adults I can find out and what animals and humans need in order to survive I can describe what foods make a healthy diet and why it is important for humans to eat the right amounts of different types of food I can describe how humans can be hygienic and why hygiene is important **Investigating plants** I can describe how seeds and bulbs grow into mature plants I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. I can describe what happens to plants if they do not have water, light and a suitable temperature to grow
Working scientifically	I can suggest how to find things out and with help make suggestions about collecting data to answer questions I can use simple texts and ICT to find information I can use simple equipment and make observations about my learning I can observe and compare objects, living things and events I can describe my observations using scientific vocabulary and record them, using simple tables I can use my observations and ideas to suggest answers to questions I can gather and record data to help in answering questions. I can say whether what happened was what I expected When prompted, I can say different ways that I could have done things		

Science Building Blocks Progression Map

3	Investigating Rocks and Soil Investigating Humans and Animals	Investigating lights and shadows Investigating what helps plants grow	Investigating Forces and Magnets
BB links	**Rocks and Soils** I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties I can describe in simple terms how fossils are formed when things that have lived are trapped within rock I can recognise that soils are made from rocks and organic matter. **Animals including humans** I can 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 I can identify that humans and some other animals have skeletons and muscles for support, protection and movement.	**Light** I can recognise and describe that they need light in order to see things and that dark is the absence of light I can notice and describe that light is reflected from surfaces I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes I can recognise and describe how shadows are formed when the light from a light source is blocked by a solid object I can describe the patterns in the way that the size of shadows change. **Plants** I can identify and describe the functions of different parts of flowering plants: including roots, stem/trunk, leaves and flowers	**Forces including magnets** I can compare and describe how things move on different surfaces I can describe how forces need contact between two objects, but magnetic forces can act at a distance I can describe how magnets attract or repel each other and attract some materials and not others I can observe , 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 I can describe magnets as having two poles I can predict whether two magnets will attract or repel each other, depending on which poles are facing
Working scientifically	I can ask relevant questions and using different types of scientific enquiries to answer them I can set up an investigation, understanding the need to carry out a fair test I can make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment I can gather, record, classify and present data in a variety of ways to help in answering questions I can record my findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables I can report on findings from my investigations in a variety of ways I can make predications for my enquiries and investigations using my prior science knowledge I can use results to draw conclusions I can identify differences, similarities or changes related to simple scientific ideas and processes I can use scientific evidence/ knowledge to answer questions or to support my findings in my work		

Science Building Blocks Progression Map

4	Electricity Living things and their habitats	Animals including humans	Sound Investigating change in states of matter
BB links	**Electricity** I can identify common appliances that run on electricity I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers I can 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 I recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit I recognise some common conductors and insulators, and associate metals with being good conductors. **Living things and their habitats** I can group living things in a variety of ways giving reasons for groups I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment I can describe environments can change and that this can sometimes pose dangers to living things	**Animals including humans** I can describe the simple functions of the basic parts of the digestive system in humans I can identify and describe the different types of teeth in humans and their simple functions I can construct and interpret a variety of food chains, identifying producers, predators and prey.	**Sound** I can identify how sounds are made, associating some of them with something vibrating I recognise that vibrations from sounds travel through a medium to the ear I can find and describe patterns between the pitch of a sound and features of the object that produced it I can find patterns between the volume of a sound and the strength of the vibrations that produced it I recognise that sounds get fainter as the distance from the sound source increases. **Changing states of matter** I can compare and group materials together, according to whether they are solids, liquids or gases I can 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) I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
Working scientifically	**Should be taught across all terms:** I can ask relevant questions and use different types of scientific enquiries to answer them I can use my results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions I can set up simple practical enquiries, I can gather, record, classify and present data in a variety of ways to help in answering questions comparative and fair tests I can make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers I can record my findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables I can identify differences, similarities or changes related to simple scientific ideas and processes I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions I can use straightforward scientific evidence to answer questions or to support their findings		

Science Building Blocks Progression Map

5	Forces Properties and their materials	Earth and Space	Living things and their habitats Animals including humans
BB links	**Forces** I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces I can recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect **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	**Earth and Space** I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system I can describe the movement of the Moon relative to the Earth I can describe the Sun, Earth and Moon as approximately spherical bodies I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	**Living things and their habitats** I can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird I can describe the life processes of living things and animals. **Animals including humans** I can describe the changes as humans develop to old age
Working scientifically	I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables when prompted. I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and a range of graphs I can use my test results to make predictions to set up further comparative and fair tests I can report and present my findings from enquiries, including conclusions, causal relationships and explanations of in a variety of ways I can identify scientific evidence that has been used to support my investigations		

Science Building Blocks Progression Map

6	Electricity Light	Evolution and inheritance Animals including humans	Living things and their habitats
BB links	**Electricity** I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit I can 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 **Light** I can describe how light appears to travel in straight lines and draw examples of this I can 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 I can 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 I can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	**Evolution and inheritance** I can recognise and describe how living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago I can recognise that living things produce offspring of the same kind, and I can describe how normally offspring vary and are not identical to their parents I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. **Animals including humans** I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood I can recognise the impact of diet, exercise, drugs and lifestyle on the way my body function s I can describe the ways in which nutrients and water are transported within animals, including humans.	**Living things and their habitats** I can 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 I can give reasons for classifying plants and animals based on specific characteristics.
Working scientifically	**Should be taught across all topics** I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs I can use test results to make predictions to set up further comparative and fair tests I can report and present findings from my enquiries, and investigations including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations I can identify scientific evidence that has been used to support or refute ideas or arguments in my scientific work		