Science Progression of Skills							
Working scientifically	EYFS	KS1		LKS2		UKS2	
	Finding ways to solve problems. Making predictions. Testing their ideas. Developing ideas of grouping, sequences, cause and effect. Planning, making decisions about how to approach a task, Solve a problem and reach a goal. Checking how well their	Asking simple questions and recognising that they can be answered in different ways. Observing closely, using simple equipment. Performing simple tests Identifying and classifying. Using their observations and ideas to suggest answers to questions. Gathering and recording data.	Asking simple questions and recognising that they can be answered in different ways. Observing closely, using simple equipment. Performing simple tests Identifying and classifying. Using their observations and ideas to suggest answers to questions. Gathering and recording data to help	Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests. Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.	Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests. Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Recording data and results of increasing complexity using scientific diagrams and labels.	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Recording data and results of increasing complexity using scientific diagrams and labels.

	activities are going. Changing strategy as needed. Reviewing how well the approach worked.		in answering questions.			

Science Progression of Skills

Chemistry

What are things made from?

Y1 - What are things made from?
Y2 - How do we choose materials?
Y5 - What are things made from and why?

Is form fixed?

Y2 – Part 1
Can we change materials?
Y4 - Is water always wet?
Y5 – Part 2
Can we change materials?

EYFS Understanding the world (Materials)	Y1 Everyday materials	Y2 Everyday materials Uses of everyday materials	Y3 Rocks	Y4 States of matter	Y5 Properties of materials Changes of materials	Y6
Everyday materials Explore natural materials, indoors and outside Explore materials with different properties. Explore and respond to different natural phenomena in their setting and on trips. Use all their senses in hands on exploration of natural materials. Explore collections of materials with similar and/or different properties. Talk about the differences between materials and changes they notice.	**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	**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. **Uses of everyday materials** Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	**Rocks** 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.	**States of matter** 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). Identify the part played by evaporation and condensation in the water cycle and associate the rate of	**Properties 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. **Changes of materials** Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.	

What natural objects link science with history and geography? **Y3 - Are all rocks the same?**	Explore the natural world around them.	variety of everyday materials on the basis of their simple physical properties.			evaporation with temperature.	Have 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.	

Science Progression of Skills

Physics

Can we see and hear energy?

Y3 - What is the dark?
Y4 – How do we hear different sounds?
Y6 - How do we see?

How do things move?

EYFS & Y1 - How do things move?
Y5 – Sun, Earth and Moon: what is moving?

Can forces be useful?

EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Seasonal changes **Forces**	**Seasonal changes**		**Light** **Magnets**	**Sound** **Electricity**	**Forces** **Earth and Space**	**Light** **Electricity**
Seasonal changes Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around them. **Forces** Explore and talk about different forces they can feel.	**Seasonal changes** Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.		**Light** Recognise that we 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 our eyes. Recognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way the size of shadows change. **Magnets** Compare how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic	**Sound** 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 pitch of a sound and features of the object that produced it. 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. **Electricity** Identify common appliances that run on electricity.	**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. **Earth and Space** Describe the movement of the Earth and other planets relative to the sun in the solar system.	**Light** 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. **Electricity** 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

EYFS – What is the use? **Y3 - What can magnets do?** **Y4 - Can we control electricity?** **Y6 - Can we vary the effects of electricity?**				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.	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	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.	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.

Science Progression of Skills

Biology

What kinds of life are there?

Y2 - What is alive?
Y4 - Part 1 Living things: what's the same and what's different?
Y5 & 6 – Part 2 Living things: what's the same and what's different?

How do living things work?

Y1 - **What are bodies and what can they do?**
Y2 – How can living things stay healthy?
Y3 - How do living things work?
Y4 - What do our bodies do with the food we eat?

EYFS Understanding the world	Y1 Plants Animals including humans	Y2 Plants Living things and their habitats Animals including humans	Y3 Plants Animals including humans	Y4 Living things and their habitats Animals including humans	Y5 Living things and their habitats Animals including humans	Y6 Living things and their habitats Animals including humans Evolution and inheritance
Plants Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Explore the natural world around them, making	**Plants** I can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. I can identify and describe the basic structure of a variety of common flowering plants, including trees. **Animals including humans** I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. I can identify and name a variety of common animals that are carnivores,	**Plants** I can observe and 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. **Living things and their habitats** I can explore and compare the differences 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.	**Plants** I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers . I can 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. I can investigate the way in which water is transported within plants. I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. **Animals including humans** I can identify that animals, including humans, need the right types and amount of	**Living things and their habitats** I can recognise that living things can be grouped in a variety of ways. 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 recognise that 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 the different types of teeth in humans and their simple functions. I can construct and interpret a variety of food chains, identifying	**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 process of reproduction in some plants and animals. **Animals including humans** I can describe the changes as humans develop to old age.	**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 microorganisms, plants and animals. I can give reasons for classifying plants and animals based on specific characteristics. **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 their bodies function. I can describe the ways in which nutrients and water are transported within animals, including humans.

Y5 & 6 - How do our choices affect how our bodies work? **What makes life go on?** **Y1 - Do living things change or stay the same?** **Y2 - What is alive, dead or was never alive?** **What do living things need to survive?** **Can living things live forever?** **Y3 – Do living things need different things to survive?** **Y4 - Are living things in danger?** **Y5 - Do all lifecycles look the same** **How do our bodies change as we get older?** Y6 – **How do living things change over time and place?**	observations and drawing pictures of plants **Animals including humans** Understand the key features of the life cycle of an animal. Begin to understand the need to respect and care for the natural environment and all living things. Explore the natural world around them, making observations and drawing pictures of animals	herbivores and omnivores I can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) I can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	I can identify and name a variety of plants and animals in their habitats, including microhabitats. I can 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. **Animals including humans** I can notice that animals, including humans, have offspring which grow into adults. I can find out about and describe the basic needs of animals, including humans, for survival (water, food and air). I can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	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.	producers, predators and prey.		Evolution and inheritance I can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. I recognise that living things produce offspring of the same kind, but 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