Backworth Park Primary School Knowledge and Skills Progression Grid Science

	Working Scientifically	Plants	Animals Including Humans	Seasonal Changes	Everyday Materials
EYFS	Ask simple questions about their familiar world. Talk about how things happen and why eg shadow. Look closely at things they find. Talk about changes and begin to use some scientific vocab eg melting, freezing. Asks questions about aspects of their familiar world. Find out how things work by observations and experimentation. Generates a variety of ideas for testing (not always realistic. Explores simple recording of tests/experiments e.g. through pictures/images and video best' - simple comparative statement. Use scientific descriptive terms with increasing confidence.	Identify plants by using vocabulary such as tree, flower, bush, weed. Name some parts of a plant such as petal and leaf. Know that plants need water and sunlight to grow well Identify plants by using vocabulary such as tree, flower, bush, weed. Can name some common trees and flowers (daffodil, daisy, etc). Names parts of a plant (leaf, flower. stalk, root) and understands what is needed for a plant to grow (sun, water, soil,).	Show care and concern for living things and the environment. Talk about how we grow and change from being babies to children to adults and how our capabilities increase. Show care and concern for living things and the environment, such as our pet snail. Develops understanding of growth, decay and changes over time e.g. leaves outdoors. Makes close observations of animals and begins to understand the different habitats animals live in. Names parts of the body and the senses	Notice changes in the weather. Talk about how plants/ animals grow, die and decay. Know some nocturnal animals, why some animals hibernate eg hedgehogs. Names different types of weather; describing some positive/negative effects for our environment and ourselves. Know what happens within each season and how the weather changes. Understand ideas connected to light and dark – e.g. reflection, shadows, nocturnal animals etc.	Play and experience natural materials eg wood and talk about its properties eg strong for building. Notices similarities and differences in relation to objects and material. Sort a variety of objects into groups – size, colour, texture, function.

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Year 1	Ask simple questions when prompted. Suggest ways of answering a question. Make relevant observations. Conduct simple tests, with support. Use observations to suggest answers to questions. Recognise findings. Gather and record data. With prompting, suggest how findings could be recorded.	Identify and describe the basic structure of a variety of common flowering plant. Identify and name common wild and garden plants. Identify and name common animals. Identify deciduous and evergreen trees. Identify and describe the structure of plants and trees.	Identify and name a variety of common animals. Classify animal groups. Classify animals as carnivores, herbivores and omnivores. Describe and compare the structure of a variety of common animals. Identify and label basic parts of the human body. Identify which part of the body is associated with each sense.	Observe changes across the four seasons. Observe and describe the seasons.	Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials. Identify, name and describe the simple physical. Identify properties of a variety of everyday materials. Compare and group everyday materials.
	Working Scientifically	**Plants**	**Animals Including Humans**	**Living Things and their Habitats**	**Everyday Materials**
Year 2	Ask simple questions and recognise that they can be answered in different ways. Observe closely, using simple equipment. Perform simple tests. Identify and classify. Suggest answers to questions by observing, gathering and recording data.	Observe and describe how seeds and bulbs grow into mature plants. Find out and describe what plants need to grow and stay healthy.	Notice that animals, including humans, have offspring which grow into adult. Find out about and describe the basic needs of animals, including humans, for survival. Describe how humans can keep healthy by exercising. Describe how humans can keep healthy by eating different types of food.	Compare things that are living, dead, and things that have never been alive. Understand habitats and where some plants and animals live. Understand habitats and how they provide basic needs of living things. Understand the term microhabitat.	Identify and compare the suitability of materials for particular uses. Find out how the shapes of solid objects made from some materials can be changed.

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	Record and communicate findings using simple scientific language.			Understand simple food chains.		
	Working Scientifically	**Plants**	**Animals Including Humans**	**Rocks**	**Light**	**Forces and Magnets**
Year 3	Ask relevant questions when prompted. Set up simple, practical enquiries and comparative tests. Make systematic observations, gather and record data. With prompting, record, group and display evidence and report findings. With prompting, suggest conclusions, possible improvements or further questions.	Identify and describe the functions of different parts of flowering plants. Explore the requirements of specific plants for life and growth. Investigate how water is transported within plants. Explore the part that flowers play in plant life cycles. Understand pollination, seed formation and seed dispersal.	Identify how animals get nutrition from what they eat. Identify that humans and some other animals have skeletons and muscles. Identify functions of a skeleton and muscles.	Compare and group together different kinds of rocks. Describe how fossils are formed when things that have lived are trapped in rock. Recognise that soils are made from rocks and organic matter.	Recognise that we need light in order to see things and that dark is the absence of light Recognise that light from the sun can be dangerous and how to protect eyes. Understand, and find patterns, in shadow formation.	Compare how things move on different surfaces Group everyday materials on the basis of whether they are attracted to a magnet. Understand magnetic poles.
	Working Scientifically	**Living Things and their Habitats**	**Animals Including Humans**	**States of Matter**	**Sound**	**Electricity**
Year 4	Ask relevant questions and plan scientific enquiries to answer them. Set up simple and practical enquiries, comparative and fair tests. Make systematic and careful observations and measurements to answer questions.	Group, identify and name a variety of living things in their local and wider environment. Recognise that environment change can pose dangers to living things.	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. Construct and interpret a variety of food chains.	Compare and group materials as solids, liquids or gases. Understand the water cycle. Observe that changes in temperature cause some materials to change state.	Identify how we hear sounds. Explore patterns in pitch and volume of sounds.	Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts. Recognise that a closed circuit is required for lamp to light in a simple series circuit.

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	Record and report on findings from enquiries. Identify differences, similarities or changes related to simple scientific ideas and processes. Use results.					Recognise common conductors and insulator.
	Working Scientifically	**Living Things and their Habitats**	**Animals Including Humans**	**Properties and Changes of Materials**	**Earth and Space**	**Forces**
Year 5	With prompting, plan scientific enquiries, controlling variables where necessary. Take measurements, repeating as necessary. Record data. Suggest further comparative or fair tests. Report and present findings from enquiries. With prompting, identify that not all results may be trustworthy. Suggest how evidence can support conclusions.	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.	Describe the changes as humans develop to old age. Compare and group together everyday materials on the basis of their properties.	Understand how solutions are formed and separated. Understand how to separate mixtures. Use comparative and fair tests to explain reasons for particular uses of everyday materials. Understand and demonstrate reversible and irreversible changes.	Describe the movement of the planets in the solar system, relative to the Sun. Describe the movement of the Moon relative to the Earth. Understand the effects of the Earth's rotation. Explain effects of gravity on Earth.	Identify the effects of forces that act between moving surfaces. Recognise that some mechanisms allow a smaller force to have a greater effect.
	Working Scientifically	**Living Things and their Habitats**	**Animals Including Humans**	**Evolution and Inheritance**	**Light**	**Electricity**
Year 6	Plan scientific enquiries to answer questions, controlling variables where necessary.	Describe how and why living things are classified into broad groups.	Identify and name main parts of human circulatory system, and describe their function.	Recognise fossils show how living things have changed over time.	Recognise that light appears to travel in straight lines.	Understand effect of changing number and voltage of cells used in a circuit.

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	Take measurements. Record data and results of increasing complexity. Use test results to make predictions to set up further comparative and fair tests. Report and present findings from enquiries. Identify scientific evidence that has been used to support or refute ideas or arguments.		Recognise impact of diet, exercise, drugs and lifestyle on the way bodies function. Describe how nutrients and water are transported within animals, including humans.	Recognise living things produce offspring, but normally offspring are not identical to parents. Identify that living things adapt and that adaptation may lead to evolution.	Explain that, to see, light travels from light sources, reflects from objects then to our eyes. Explain why shadows have the same shape as the objects that cast them.	Compare and give reasons for variations in how components of a circuit function. Use recognised symbols when representing a simple circuit in a diagram.