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SKILLS	Language	• Be able to explain the process they have used	• Communicate their ideas in a variety of ways and using appropriate scientific vocabulary.	• Use relevant scientific language to discuss and communicate their tests and findings.	• Use relevant scientific language to discuss, communicate and justify their scientific ideas.
	Asking & Planning		• Asking simple questions and recognising that they can be answered in different way	• Think of and ask relevant questions they may want answered • Start to make their own decisions about the type of scientific enquiry needed. • Help to decide how to set up simple enquiries, comparative and fair tests.	• Raise different kinds of questions and select the most appropriate form of test to investigate. • Plan different types of scientific enquiries (comparative and fair), naming and controlling variables (and explaining why they need to be controlled) where necessary.
	Performing & Observing	• Explore the natural world around them, making observations and drawing pictures e.g. of animals and plants • Explore scientific enquiry using digital and non-digital technology	• Perform simple tests, including comparative tests • Observe closely, using simple equipment, including observing changes over time • Notice patterns	• Make systematic observations, sometimes taking accurate measurements using standard units (thermometers, rules, data loggers, etc.)	• Choose what observations to make, what measurements to use, and for how long • Take increasingly accurate and precise measurements, and choosing whether to take repeat readings. • Use a variety of scientific measuring equipment (thermometers, rules, data loggers, newton meters, etc.)
	Gathering and recording data		• Gather and record data to help in answering questions	• Gather & record data in a variety of ways (notes, simple tables, diagrams, drawings….) • Help make decisions about how to present the data, and do so in a variety of ways, to help answer a question (charts, keys, tables) • Record findings using simple scientific language (drawings, labelled diagrams, keys, bar charts, tables)	• Record data and results using scientific diagrams/labels, classification keys, tables, scatter/bar/line graphs
	Identifying, Classifying & forming conclusions		• Identify, grouping and classifying things • Use observations and ideas to suggest answers to questions	• Recognise they could use straightforward scientific evidence (from secondary sources) to answer a question they cannot investigate themselves, or to support their own findings. • With help, look for patterns, similarities, differences to draw simple conclusions & relate to simple scientific ideas.	• Look at patterns, identify causal relationships in their data & draw conclusions • Report & present findings - including conclusions & explanation of trust in results – in oral & written forms (report, display, presentation, etc..)
	Using results			• With support, use conclusions to make a prediction of further values within/beyond data collected.	• Use results to make predictions and identify further tests and observations that could be made or needed.

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				• With support, suggest improvements to the test and raise further questions that could be tested.	• Recognise when secondary sources may be most useful to research an idea. Begin to separate opinion and fact. • Discuss scientific evidence that has been used to support or refute ideas & how some ideas have changed over time.
BIOLOGY	Plants	• Explore the natural world around them, drawing pictures of animals and plants	• 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. • 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.	• Identify and describe the functions of the roots, stem/trunk, leaves and flowers of flowering plants. • Explore a plant's need for air, light, water, nutrients from soil & space, in order to grow/live, and how this varies between plants. • Investigate (and name/locate the parts involved in) the way that water is transported within plants. • Explore the part that flowers play in the life cycle of flowering plants (pollination, seed formation and seed dispersal).	• (Living things and their habitats) Describe the life process of reproduction in some plants and animals.
	Living Things and Their Habitats	• Know some similarities and differences between the natural world around them and contrasting environments. • Understand some important processes and changes in the natural world around them, including the seasons.	• Explore and compare the differences between, & identify if things are living, dead, or have never been alive. • Identify that most living things live in habitats to which they are suited. • Name a variety of plants and animals in their habitats, including micro-habitats, & say how they are suited. • Describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. • 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	• 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 how environmental changes can affect habitats and that this can sometimes pose dangers to living things.	• 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 (sexual and asexual). • Describe how living things are classified into broad groups, such as micro-organisms, plants & animals, and that these can be further subdivided. • Use the observable features of plants and animals as reasons to group and classify them into common groups such as insects, mammals, reptiles, etc. *Evolution and Inheritance:* • Recognise that living things have changed over time and that fossils provide information about living things from long ago. • Recognise that living things produce offspring of the same kind, but offspring vary and are not identical to their parents.

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					• Identify how animals and plants are adapted to suit their environment, and that adaptation may lead to evolution.
	Animals, Including Humans	• Draw pictures of animals and plants	• Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. • Identify, name and group a variety of common animals that are carnivores, herbivores and omnivores. • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals), including pets. • Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. • Notice and describe the main changes as young animals, including humans, grow into adults. • 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.	• 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 & describe how humans and some other animals have skeletons and muscles for support, protection and movement. • Name & 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, identifying producers, predators and prey.	• Describe the changes as humans develop to old age. • Identify/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.

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CHEMISTRY	Materials	• Explore and use a variety of materials e.g. for creative activities, making props when role-playing. • Understand some important processes and changes in the natural world around them, including changing states of matter.	• 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 (flexible, rigid, transparent, opaque, smooth, etc.) • Compare and group together a variety of everyday materials on the basis of their simple physical properties. • Identify and compare the suitability of a variety of everyday materials (wood, metal, plastic, glass, brick, rock, paper, cardboard) for particular uses. • 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 & link to everyday phenomena. • 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 evaporation with temperature.	• (Link to Evolution and inheritance) Recognise that fossils provide information about living things that inhabited the Earth millions of years ago. • Compare and group together everyday materials on the basis of their properties, (hardness, solubility, transparency, thermal and electrical conductivity, magnetism). • 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 (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 form new materials, and are not usually reversible, including (burning, rusting, acid/bicarb soda, etc).
PHYSICS	Our Earth & Space	• Understand some important changes in the natural world around them, including the seasons.	• Observe and describe changes across the four seasons. • Observe and describe weather associated with the seasons and how day length varies.		• 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.
	Light		• (link to Animals, Including Humans) Say which part of the body is associated with each sense.		• Recognise that they need light in order to see things, and that dark is the absence of light *(Y3 obj.)*

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			• (link to Materials) Describe the simple physical properties of a variety of everyday materials (transparent, translucent, opaque).		• Recognise that light from the sun can be dangerous and that there are ways to protect their eyes *(Y3 obj.)* • Recognise that shadows are formed when the light from a light source is blocked by an opaque object. *(Y3 obj.)* • Find patterns in the way that the size of shadows change *(Y3 obj.)* • Notice that light is reflected from surfaces. • Recognise that light appears to travel in straight lines. • Use the idea that light is reflected from surfaces and travels in straight lines to explain that we see things because they give out light (are a source) or reflect light from a source into the eye. • Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.
	Forces		• (link to materials) Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	• Compare how things move on different surfaces. • Notice that some forces need contact between two materials (e.g. friction), but others can act at a distance (e.g. magnetic forces, gravity) – *partial Y5 obj*. • Describe the effects of friction acting between moving surfaces – *Y5 obj*. • Observe how magnets attract or repel each other and attract some materials and not others. Describe the effect of magnetic force. • Compare/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.	• 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 and water resistance as further types of friction that act between moving surfaces. • Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

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	Sound		• (link to Animals, Including Humans) Say which part of the body is associated with each sense.	• Identify how sounds are made, associating some of them with vibrations. • Recognise that vibrations from sounds travel through a medium to the ear & we need this to be able to hear. • 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. • Construct a simple series electrical circuit, identifying and naming its basic parts (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.	• Associate the brightness of a lamp or the volume of a buzzer with the number, and voltage, of cells used in the circuit. • Describe, and explain, how a circuit can be affected (on/off, brightness/loudness, etc.) when changes are made to it. • Use recognised symbols to represent a simple circuit in a diagram.