



Progression in Knowledge and Skills Document - Science

Year 1 - Herons				
Working Scientifically	With support, I can ask simple questions I can suggest ways of answering a question I can make relevant observations I can conduct simple tests with support With support, I can identify ways in which I could record my findings I can notice what I have found out I can gather and record data I can use observations to suggest answers to questions			
	Plants	Animals including humans	Everyday Materials	Seasonal changes
Objective	I can identify and name a variety of common wild and garden plants (<i>within our school grounds</i>) I can identify the parts of a flower and begin to identify the functions	I can identify and name a variety of common animals, including: fish, amphibians, reptiles, birds and mammals. I can begin to identify key features of an animal I can understand the terms: carnivore, herbivore and omnivore I can identify, name and 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 an object and identify the material it is made from I am beginning to suggest why this is an appropriate material I can identify and name a range of materials I can describe a range of properties of a variety of materials. I can classify and group a variety of materials into groups based on physical properties based on their properties	I can observe changes over the four seasons I can observe and describe the weather associated with the seasons and identify how the length of the day changes.
Year 2 - Kingfishers				
Working Scientifically	I can ask simple questions I can recognise that scientific questions can be answered in a variety of ways I can observe closely and use simple equipment I can carry out simple tests I am beginning to record my results in a variety of ways and beginning to use scientific vocabulary I am beginning to identify and classify my results I can gather and record data to help answer questions I can use my results to begin to suggest answers to questions			
	Living things and their habitats	Plants	Animals including humans	Uses of everyday materials
Objective	I can identify that most living things live in habitats to which they are suited I can describe how different habitats provide for the basic needs of different kinds of animals and plants I can identify how plants and animals they depend on each other. I can identify plants and animals in my school environment (and Shorne Country Park) I can construct a simple food chain I understand the terms: alive, dead or never alive I recognise the life cycle of a frog and chicken	I know that plants need water, light and a suitable temperature to grow and stay healthy I can investigate what plants need to survive I can observe over time to identify how seeds and bulbs grow into mature plants I can create a life cycle of a plant	I know that animals, including humans have offspring which grow into adults I can describe the relationship between adult animals and their offspring I can identify the basic needs (water, food and air) for animals and humans to survive I can describe the importance of a healthy diet and exercise	I can investigate the properties of common materials I can identify how applying a force (bend, twist, squeeze, squash) can change the shape of a solid object I can identify wood, metal, plastic, glass, brick, rock and paper. I can select and justify a material for a particular use.



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Year 3 – Swallows					
Working Scientifically	I can ask relevant questions I can set up simple and practical enquiries and begin to set up comparative and fair tests I can make systematic observations using simple equipment I can use standard units when taking measurements I can record findings in a variety of ways With prompting, I can suggest how findings may be tabulated			With prompting, I can use various ways of recording, grouping and displaying evidence. With prompting I can suggest conclusions from enquiries. I can suggest how findings could be reported I can gather and record data about similarities, differences and changes With prompting I can suggest conclusions I am beginning to suggest improvements or further questions to investigate	
	Plants	Forces and magnets	Animals including humans	Rocks	Light
Objectives	I can recognise what plants need to grow (air, water, nutrients from soil, light) and recognise how this varies plant to plant I can recognise the functions of the parts of a plant I can explain with the aid of a diagram how water is transported within a plant I can explain how pollination, seed formation and seed dispersal play a role in the reproduction of plants	I can compare how things move on different surface I know that some force needs contact between objects and others do not I can identify how magnets attract or repel each other I can group materials according to whether they are magnetic or not I can describe and identify poles of a magnet I can predict if two magnets will attract or repel one another	I can describe why animals depend on the correct nutrition I can explain which parts of the skeleton provide support and protection and how they allow for movement.	I can explain how fossils are formed over time and understand there are different types of fossils I can describe the properties of fossils and recognise what soil is made from I can compare and group together different types of rocks	I know that darkness if the absence of light. I know that we need light to see. I can recognise that some surfaces reflect light I know my eyes need to be protected from sunlight and can explain why I can explain how shadows are made I can describe how to change the size/shape of a shadow by moving the object.
Year 4 – Woodpeckers					
Working Scientifically	I can ask relevant, scientific questions I can plan different types of scientific enquiries to answer questions I can set up simple and practical enquiries, comparative and fair tests I can make systematic and careful observations using a range of equipment, including thermometers and data loggers I can take accurate measurements using standard units, where appropriate I can record findings using simple scientific language, drawings and labelled diagrams I can record findings using keys, bar charts and tables.			I can gather, record, classify and present data in a variety of ways to help answer a question I can report on findings from enquiries, including oral and written explanations of results and conclusions I can present findings either in writing or orally e.g. relating to investigating which materials are conductors I can recognise patterns that relate to scientific ideas I can use evidence to draw simple conclusions I can use evidence to suggest further investigations	
	Living things and their habitats	States of matter	Sound	Electricity	Animals including humans
Objectives	I can suggest different ways of sorting the same group of living things e.g. grouping birds according to where they live, what they eat and size of adults I can use classification keys to group and identify members from a range of familiar and less familiar living things	I can recognise the different states of matter e.g. solid, liquid and gas I can group materials according to their state of matter I can describe how evaporation and condensation happen in the	I can explain, with reference to vibrations, how an object makes a sound I can describe the role of a medium in the transmission of sound I can describe the effect of moving further from the source of a sound	I can list appliance that run on electricity I can construct a simple circuit and name its components I can sort materials into conductors and insulators and identify metals as conductors	I can describe what each of the principal organs in the digestive system do I can describe the function of each type of tooth in the human skull



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	I can describe examples of living things that are threatened by changes to environment e.g. owl and habitat loss	water cycle, and how temperature affects evaporation I can identify changes of state and research values of degrees Celsius at which changes happen	I can explain with reference to a particular object how the pitch of the sound can be changed I can explain how the volume of the sound can be changed	I can predict whether certain arrangements of components will result in a light bulb lighting I can predict how the operation of a switch will affect bulbs lighting	I can construct a food chain to represent the predator-prey relationship
	Year 5 - Kestrels				
Working Scientifically	With support, I can answer questions using evidenced gathered from different types of scientific enquiry to plan investigations e.g. comparing life cycles using change over time With prompting, I can identify and manage variables Following discussions of alternatives, I can select appropriate equipment I can take measurements that are precise as well as accurate I know how to process repeated readings I can record data and results With support, I can use various ways to record complex evidence			I can use a graph to record basic data With prompting, I can write a conclusion using evidence and identify causal links With support, I can display and present key findings from enquiries orally and in writing With support, I can indicate why some results may not be entirely reliable I can show how my evidence support my conclusion e.g. researching gestation periods of mammals I can suggest further relevant comparative or fair tests	
	Living things and their habitats	Animals including humans	Properties and changes of materials	Earth and Space	Forces
Objectives	I can identify similarities and differences in two different life cycles e.g. between an amphibian and a bird I can describe in sequence the stages of reproduction in some plants and animals	I can describe the changes as humans develop to old age	I can test and sort a range of materials based on their physical properties (e.g. soluble, hardness) I can describe how some materials e.g. sugar, will dissolve and can be retrieved I can justify separation techniques proposed, with reference to materials being separated I can show how the original materials can be retrieved from each of these changes I can identify reactants and products of chemical changes and recognise them as being irreversible I can use evidence to justify the selection of a material for a purpose	I can explain that gravity causes objects to fall towards Earth I can draw a diagram or use a model to describe planetary orbits I can draw a diagram or use a model to describe the Moon's orbit around the Earth I can describe the Sun, Earth and Moon as spheres I can use a diagram or model to explain why the Sun seems to travel across the sky and what causes day and night	I can describe how motion may be resisted by air, resistance, water resistance or friction I can describe how some devices may turn a smaller force into a larger one



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Year 6 - Eagles					
Working Scientifically	I can answer questions using evidence gathered from different types of scientific enquiry I can identify and manage variables I can use appropriate equipment to take appropriate, accurate measurements I can suggest ways in which measurements can be improved I can identify situations in which taking repeated readings will improve the quality of evidence I can use labelled diagrams to show complex outcomes I can use various way to record complex evidence			I can use line graphs to display complex data I can write a conclusion with evidence and identify causal links I can display and present key findings from enquiries orally and in writing In conclusions, I indicate how trustworthy I think my results are I can identify how an idea is supported or refuted by evidence I can use evidence to suggest further comparative or fair tests that would develop the investigation	
	Living things and their habitats	Animals including humans	Electricity	Evolution and inheritance	Light
Objectives	I can describe examples of a living thing that has adapted to live in a particular habitat and evolved	I can describe what heart, blood vessels and blood do I can suggest how my body is affected by substances and by actions I can describe with the aid of diagrams the route that water and nutrients take within humans, e.g. through the organs within the human body	I can explain how number and voltage of cells affects the lamp or buzzer I can explain the use of switches, how bulbs can be made brighter and buzzes made louder I can represent a circuit that has been constructed using symbols	I can use similarities and differences in observable features to decide how living things should be grouped I can explain why certain features are useful in classifying living things I can use fossils as evidence that living things have changed over time I can recognise that offspring normally vary from each other and from their parents	I can recognise that light appears to travel in straight lines and use ray diagrams I can draw diagrams using straight lines showing light travelling to the eye I can explain how we see an object by referring to light travelling into the eye I can draw a diagram showing an object, shadow and light to relate object shape to shadow shape