Key Skills Assessment Criteria - 2025-26

Subject: Science

	Autumn		Spring		Summer	
Nursery	To begin to explore some natural materials.	To begin to sort natural materials according to properties using new vocabulary such as, hard, soft, rough, smooth.	Talk about what they see, using a growing vocabulary. Explore collections of materials with similar and/or different properties. E.g. shells, pebbles, pine cones, bark. To begin to understand who, where and when questions	Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. To observe and talk about the lifecycle of a duck. Begin to understand the need to respect and care for the natural environment and all living things. To begin to understand 'why' questions.	Observe and talk about the differences between materials and changes they notice. E.g. cooking and melting. To use a wider range of vocabulary that they have learnt throughout the year	Continue to talk about what they see, hear and feel using a growing vocabulary. Explore how things work. E.g. using gears, wind up toys, pulleys and cogs. Explore and talk about different forces they can feel. E.g. how the water pushes up when they try to push a plastic boat under it. Understand simple 'why' questions To begin to answer "I wonder" prompts during discussions, knowing that their ideas may differ from what others say.
Reception	To ask questions about the natural environment. To respect and care for their immediate environment. Pupils will explore change in materials from one state to another by combining different ingredients to make their own playdough. To learn new vocabulary and use picture cue cards to talk about an object.	To know about and recognise the signs of Autumn. Look closely at natural objects linked to Autumn and record what they see through drawings. To begin to link changes in weather to the seasons by completing a Weather chart, observing and describing the daily weather patterns. To know that animals behave differently in different seasons e.g. gathering food, hibernating. To observe and learn vocabulary linked to their local natural environment and begin to describe simple characteristics. To understand who, where and when questions. To answer who, where and when questions in front of whole class. To use new vocabulary throughout the day linked to different areas of learning.	To know about and recognise the signs of Winter. To explore materials in different states by observing Ice freezing and melting. They will describe and comment on what they observe. Describe what they see, hear and feel whilst outside. To explore the weather of other countries and discuss the type of clothes they would need to pack if they were to visit different places. To look at aerial views of the school setting and talk about what they can see, including buildings, open space, roads and other simple features. To ask who, where, when and what questions to find out more.	To know about and recognise the signs of Spring. To know about features of the area in which they live and talk about how it varies from another location e.g. a farm or jungle. Develop vocabulary needed to name specific features of the world, both natural and made by people. To reflect different locations through drawing and other art work. To know about different habitats. To understand and answer how and why questions.	To observe the growth of seeds and talk about changes. To know how to care for growing plants. To recognise, name and describe the life-cycle of a plant. (linked to peas and beans.) To reflect what they observe through drawings of growing plants. Describe what they see, hear and feel whilst outside with a wider range of vocabulary e.g. hard, soft, spiky, quiet, loud. To explore an object casting a shadow when making shadow puppets for traditional tales. To sow peas, beans and other plants. To know that some animals are nocturnal. To understand questions such as why and how. To ask a variety of questions to find things out and clarify understanding. To answer 'why' questions linked to	To know about and recognise the signs of Summer. To know that some things in the world are man-made and some things are natural. To harvest grown fruit and vegetables and talk about the changes over time. To know some important processes and changes in the natural world including states of matter. (How a boat floats on water) Talk about the life cycle of plants and animals and what they need to survive. To know about features of the world and talk about how we can look after it. To explore recycling and the impact of plastic on the oceans. To talk about why things happen and how things work.

					stories, non-fiction text and other areas of learning.	
Year 1 HEP Curriculum	Park Explorers - 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	My Body and My Senses - Pupils should identify, name, draw, and label the basic parts of the human body and say which part is associated with each sense	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 variety of everyday materials on the basis of their simple physical properties.	Animals Groups - Identify and name a variety of common animals, including fish, amphibians, reptiles, birds, and mammals - Describe and compare the structure of a variety of common animals	Animal Diets - Identify and name a variety of common animals that are carnivores, herbivores and omnivores	Seasonal Changes -Observe changes across the four seasons -Observe and describe weather associated with the seasons and how day length varies
Working Scientifically	**Working Scientifically skills**					
	Planning Experiments		Conducting and Recording Experiments		Reporting Findings and Concluding	
	Ask simple questions Understand that questions can be answered in different ways.		Observe closely, using simple equipment Perform simple tests Identifying and classifying (e.g. living and non living things)		Recognise findings Gather and record data Use observations to suggest answers to questions	
Year 2 HEP	Growing Plants -Observe how seeds and bulbs grow - Learn about plant needs (water, light, temperature)	Uses of Everyday Materials -Compare the suitability of materials for different uses - Explore how materials can change shape	Animals Needs - Learn about animal life cycles - Understand basic needs of animals and humans (food, water, air)	Local Habitats - Distinguish between living, dead, and never alive - Explore local habitats and how they meet needs.	Habitats and Microhabitats - Investigate different habitats and microhabitats - Understand how conditions affect living things	Food Chains and Health - Create simple food chains -Learn about human health and the importance of a balanced diet
Working Scientifically	**Working Scientifically skills**					
	Planning Experiments		Conducting and Recording Experiments		Reporting Findings and Concluding	
	Ask simple questions Understand that questions can be answered in different ways.		Observe closely, using simple equipment (e.g. magnifying glasses) Perform simple tests (to find things out) Identifying and classifying (e.g. living and non living things)		Recognise findings Gather and record data (information) to help answer questions Use observations and ideas to suggest answers to questions Use their observations and ideas to suggest answers to questions	
Yaer 3 HEP	Plants Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers	Rocks -compare and group together different kinds of rocks on the basis of their appearance and simple	Light -Recognise that they need light in order to see things and that dark is the absence of light	Animals, including humans -Identify that animals, including humans, need the right types and amount of nutrition, and that they	Forces and Magnets -compare how things move on different surfaces -notice that some forces need contact	Bee Project -explore the part that flowers play in the life cycle of flowering plants,

	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 investigate the way in which water is transported within plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	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	-Notice that light is reflected from surfaces -Recognise that light from the sun can be dangerous and that there are ways to protect their eyes -Recognise that shadows are formed when the light from a light source is blocked by an opaque object -Find patterns in the way that the size of shadows change	cannot make their own food; they get nutrition from what they eat -Identify that humans and some animals have skeletons and muscles for support, protection and movement.	between 2 objects, but magnetic 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 2 poles -predict whether 2 magnets will attract or repel each other, depending on which poles are facing.	including pollination, seed formation and seed dispersal -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 that humans and some other animals have skeletons and muscles for support, protection and movement

Working Scientifically	**Working Scientifically skills**					
	Planning Experiments		Conducting and Recording Experiments		Reporting Findings and Concluding	
	Ask relevant questions Set up simple and practical enquiries, comparative and fair tests Plan different types of scientific enquiries to answer questions		Make systematic and careful observations using a range of equipment, including thermometers and data loggers Take accurate measurements using standard units Gather, record, classify and present data in a variety of ways to help in answering questions		Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Report on findings using oral and written explanations, of results and conclusions (including the use of displays or presentations) Use results to draw simple conclusions, make predictions for new values, suggest improvements and ask further questions. Identify differences, similarities or changes related to simple scientific ideas and processes Use simple scientific evidence to answer questions or to support their findings.	
Year 4 HEP Curriculum	<u>States of Matter</u> -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 evaporation with temperature.	<u>Animals, including humans</u> -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.	<u>Sound</u> -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.	<u>Living things and their habitats</u> To recognise that living things can be grouped in a variety of ways. -To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment -To recognise that environments can change and that this can sometimes pose dangers to living things.	<u>Electricity</u> -Identify common appliances that run on electricity -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	<u>The History of Science</u> - Explore the requirements of plants for life and growth (Y3) - Notice that light is reflected from surfaces (Y3) - Notice that some forces need contact between 2 objects, whilst others act at a distance, (Y3) - Recognise that environments can change and that this can sometimes pose dangers to living things (Y4) - Compare and group materials together (Y4)

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					Use simple scientific evidence to answer questions or to support their findings. Suggest possible improvements or further questions to investigate	
Year 5 HEP Curriculum	<u>Properties and changes of material</u> -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 -Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.	<u>Animals, including humans</u> -Recognise the stages of growth and development in humans -Know the stages in the gestation period of humans and compare them to other animals -Recognise the stages of development during childhood and understand the needs of children at those stages - Understand the initial changes inside and outside of the body during puberty -Understand how to keep ourselves happy and healthy during puberty	<u>Forces</u> -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	<u>Living things and their habitats</u> -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.	<u>Earth and Space</u> -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.	<u>The Scientific Method</u> -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, classification keys, tables, scatter graphs, bar and line graphs -using test results to make predictions to set up further comparative and fair tests -reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations -identifying scientific evidence that has been used to support or refute ideas or arguments
Working Scientifically	Working Scientifically skills					
	Planning Experiments		Conducting and Recording Experiments		Reporting Findings and Concluding	
	Plan different types of scientific enquiries to answer questions Recognise and control variables where necessary		Take precise measurements using standard units. Take measurements with increasing accuracy and precision. Take repeat readings when appropriate. Record data using labelled scientific diagrams, keys, tables and charts Record data and results of increasing complexity using line graphs		With support, present findings from enquiries orally and in writing (such as displays and other presentations). Use test results to make predictions to set up further comparative and fair tests. With prompting, identify causal relationships and that not all results may be trustworthy. Suggest how evidence can support conclusions. Identify scientific evidence that has been used to support or refute ideas or arguments.	
Year 6 HEP	<u>Animals, including humans</u> -Identify and name the main parts of the human circulatory system, and explain the functions of the heart, blood vessels and blood -Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function	<u>Evolution and inheritance</u> -Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. -Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents	<u>Electricity</u> -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 components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches	<u>Light</u> -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	<u>Living things and their Habitats</u> -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 -Give reasons for classifying plants and animals based on specific characteristics	<u>Preparing for secondary science (HEP science)</u> -Develop scientific knowledge and conceptual understanding. -Understand the nature, processes, and methods of science. -Be equipped with the scientific knowledge required to understand

	-Describe the ways in which nutrients and water are transported within animals, including humans.	-Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	-use recognised symbols when representing a simple circuit in a diagram.	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		the uses and implications of science.
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	Plan different types of scientific enquiries to answer questions Recognise and control variables where necessary		Take precise measurements using standard units. Take measurements with increasing accuracy and precision. Take repeat readings when appropriate. Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs		Report and presents findings from enquiries in oral and written forms such as displays and other presentations. Use test results to make predictions to set up further comparative and fair tests With prompting, identify causal relationships and that not all results may be trustworthy. Suggest how evidence can support conclusions. Identify scientific evidence that has been used to support or refute ideas or arguments.	