

Science Assessment 2021-2022

Key				
Materials	Animals, including humans	Plants	Seasonal changes	Living things and their habitats
Forces	Light	Rocks	Sound	Electricity
States of matter	Earth and space	Evolution and inheritance	Working scientifically	

EYFS Early Learning Goals	
Understanding the World – The Natural World	Explore the natural world around them, making observations and drawing pictures of animals and plants
Understanding the World – The Natural World	Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class
Understanding the World – The Natural World	Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter

Year 1 Key Performance Indicators	
Plants	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.
Plants	Identify and describe the basic structure of a variety of common flowering plants, including trees.
Animals, including humans	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
Animals, including humans	Identify and name a variety of common animals that are carnivores, herbivores and omnivores
Animals, including humans	Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)
Animals, including humans	Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense
Materials	Distinguish between an object and the material from which it is made
Materials	Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
Materials	Describe the simple physical properties of a variety of everyday materials
Materials	Compare and group together a variety of everyday materials on the basis of their simple physical properties
Seasonal changes	Observe changes across the 4 seasons
Seasonal changes	Observe and describe weather associated with the seasons and how day length varies
Working scientifically	Use different approaches to answer scientific questions
Working scientifically	Carry out simple tests

Year 2 Key Performance Indicators	
Living things and their habitats	Explore and compare the differences between things that are living, dead, and things that have never been alive
Living things and their habitats	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
Living things and their habitats	Identify and name a variety of plants and animals in their habitats, including microhabitats
Living things and their habitats	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
Plants	Observe and describe how seeds and bulbs grow into mature plants
Plants	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy
Animals, including humans	Notice that animals, including humans, have offspring which grow into adults
Animals, including humans	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
Animals, including humans	Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene
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
Materials	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching
Working scientifically	Use simple equipment for observations
Working scientifically	Link ideas and answers to observations
Working scientifically	Collect information to help to answer scientific questions

Year 3 Key Performance Indicators	
Plants	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
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
Plants	Investigate the way in which water is transported within plants
Plants	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal
Animals, including humans	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
Animals, including humans	Identify that humans and some other animals have skeletons and muscles for support, protection and movement
Rocks	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
Rocks	Describe in simple terms how fossils are formed when things that have lived are trapped within rock

Rocks	Recognise that soils are made from rocks and organic matter
Light	Recognise that they need light in order to see things and that dark is the absence of light
Light	Notice that light is reflected from surfaces
Light	Recognise that light from the sun can be dangerous and that there are ways to protect their eyes
Light	Recognise that shadows are formed when the light from a light source is blocked by an opaque object
Light	Find patterns in the way that the sizes of shadows change.
Forces	Compare how things move on different surfaces
Forces	Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance
Forces	Observe how magnets attract or repel each other and attract some materials and not others
Forces	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
Forces	Describe magnets as having 2 poles
Forces	Predict whether 2 magnets will attract or repel each other, depending on which poles are facing
Working scientifically	Set up simple fair tests
Working scientifically	Collect and present data from scientific experiments
Working scientifically	Use results from experiments to draw simple conclusions or suggest improvements

Year 4 Key Performance Indicators	
Sound	Identify how sounds are made, associating some of them with something vibrating
Sound	Recognise that vibrations from sounds travel through a medium to the ear
Sound	Find patterns between the pitch of a sound and features of the object that produced it
Sound	Find patterns between the volume of a sound and the strength of the vibrations that produced it
Sound	Recognise that sounds get fainter as the distance from the sound source increases
Electricity	Identify common appliances that run on electricity
Electricity	Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
Electricity	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
Electricity	Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
Electricity	Recognise some common conductors and insulators, and associate metals with being good conductors

States of matter	Compare and group materials together, according to whether they are solids, liquids or gases
States of matter	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)
States of matter	Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature
Animals, including humans	Describe the simple functions of the basic parts of the digestive system in humans
Animals, including humans	Identify the different types of teeth in humans and their simple functions
Animals, including humans	Construct and interpret a variety of food chains, identifying producers, predators and prey
Living things and their habitats	Recognise that living things can be grouped in a variety of ways
Living things and their habitats	Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
Living things and their habitats	Recognise that environments can change and that this can sometimes pose dangers to living things
Working scientifically	Take accurate measurements using a range of scientific apparatus
Working scientifically	Present findings using tables, graphs and charts as appropriate
Working scientifically	Use straightforward evidence in support of ideas

Year 5 Key Performance Indicators	
Forces	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
Forces	Identify the effects of air resistance, water resistance and friction, that act between moving surfaces
Forces	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
Earth and space	Describe the movement of the moon relative to the Earth
Earth and space	Describe the sun, Earth and moon as approximately spherical bodies
Earth and space	Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky
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
Materials	Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution
Materials	Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating
Materials	Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
Materials	Demonstrate that dissolving, mixing and changes of state are reversible changes

Materials	Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, for example changes associated with burning and the action of acid on bicarbonate of soda
Animals, including humans	Describe the changes as humans develop to old age
Living things and their habitats	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
Living things and their habitats	Describe the life process of reproduction in some plants and animals
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Working scientifically	Plan scientific investigations, including controlling variables where appropriate
Working scientifically	Record data using diagrams, keys, tables and a range of graphs
Working scientifically	Report conclusions and explanations from scientific investigations

Year 6 Key Performance Indicators	
Living things and their habitats	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
Living things and their habitats	Give reasons for classifying plants and animals based on specific characteristics
Animals, including humans	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
Animals, including humans	Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
Animals, including humans	Describe the ways in which nutrients and water are transported within animals, including humans
Evolution and inheritance	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
Evolution and inheritance	Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
Evolution and inheritance	Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution
Light	Recognise that light appears to travel in straight lines
Light	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
Light	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
Light	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
Electricity	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
Electricity	Use recognised symbols when representing a simple circuit in a diagram

Working scientifically	Use test results to design further investigations
Working scientifically	Using simple models to describe scientific ideas
Working scientifically	Identifying scientific evidence that has been used to support or refute ideas or arguments