Science Curriculum - Reception to Year 6 – 2023

Autumn Term

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Observing autumn changes Materials: Recycling	**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. **Plants** Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. **Seasonal Change** Observe changes across the seasons - Autumn, Winter. **Working scientifically** Observing closely, identifying and classifying.	**Materials** Uses of everyday 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. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. **Working scientifically** Performing simple tests, asking questions using observations and ideas to answer questions.	**Light** Light, dark and how we see things. Reflection Sources of light Shadows and how/why they change **Plants** Different parts of flowering plants: roots, stem/trunk, leaves and flowers Requirements for life and growth in different plants. Investigate the way in which water is transported within plants. Life cycle of flowering plants, including pollination, seed formation and seed dispersal. **Working scientifically** Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple, practical enquiries, comparative and fair test.	**Sound** Vibration (including through materials and air) Pitch Volume **Electricity** Uses Circuits: cells, wires, bulbs, switches and buzzers. Series circuits. Conductors and insulators **Working Scientifically** Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.	**Properties and changes of 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. 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, including through filtering, sieving and evaporating. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials,	**Light** 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 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. **Electricity** 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

					including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. **Working scientifically** Planning different types of scientific enquiries to answer questions, including recognising and controlling variables, where necessary.	function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Use recognised symbols when representing a simple circuit in a diagram. **Working Scientifically** Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of/and degrees of trust in results, in oral and written form such as displays and other presentations.

Spring Term

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
States of matter (ice) How have I changed? Observing winter changes Children from around the world, looking at similarities and differences. Parts of a plant Animals from around the world	**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 based on their simple physical properties. **Seasonal Change** Observe changes across the four seasons – Winter - Spring. **Working scientifically** Gathering and recording information. Performing simple tests Asking simple questions and using observations to answer questions.	**Living things and their habitats** Explore and compare the differences between things that are living, dead, and things that have never been alive. Identify that most living things live in habitats to which they are suited. Identify and name a variety of plants and animals in 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. **Animals, including humans** Notice that animals, including humans, have offspring which grow into adults. Find out about and describe the basic needs of animals, including humans, for survival	**Rocks** Compare and group together different kinds of rocks. Describe in simple terms how fossils are formed. Recognise that soils are made from rocks and organic matter. **Working scientifically** Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Reporting on findings from enquiries, including oral and written explanations, displays or presentation of results and conclusions.	**States of matter** Solids, liquids and gases Changing states / heating and cooling Water Cycle: Evaporation and Condensation **Working Scientifically** Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Using straightforward scientific evidence to answer questions or to support findings.	**Earth and space** 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. **Forces** 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	**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. 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. **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. Give reasons for classifying plants and animals based on specific

		(water, food and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. **Working scientifically** Identify and classify.			that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. **Working scientifically** Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.	characteristics. **Working Scientifically** Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scattergraphs, bar and line graphs.

Summer Term

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Caterpillar lifecycle Other lifecycles Natural/ manmade materials Magnetic/ non-magnetic Floating and sinking	**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. Identify and name 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). **Seasonal Change** Observe and describe weather associated with the seasons – Spring-Summer and how day length varies. **Working scientifically**	**Plants** 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. **Working scientifically** Growing plants – beans Observing, use simple equipment. Gathering and recording data to help answer questions.	**Animals including humans** Animal (including human) nutrition Skeletons and muscles for support, protection and movement. **Forces and magnets** Attraction and repulsion How magnets operate in different conditions Poles **Working scientifically** Identifying differences, similarities or changes related to simple scientific ideas and processes.	**Living things and their habitats** Grouping and classifying including the use of classification keys. Changes to the environment Living things in the local and wider environment **Animals. Including humans** Teeth Digestive system Food chains: producers, prey and predators **Working Scientifically** Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.	**Living things and their habitats** 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. **Animals, including humans** Describe the changes as humans develop to old age. **Working scientifically** Using test results to make predictions to set up further comparative and fair tests.	**Tempest project** Scientific enquiry into superstition and luck **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. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. **Working Scientifically** Identifying scientific evidence that has been used to support or refute scientific arguments

	Gathering and recording information. Identifying and classifying.					