

Science

“The important thing in science is not so much to obtain new facts as to discover new ways of thinking about them.”

Sir William Bragg.

Scientists linked to the curriculum

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Animals including humans Chris Packham		Everyday materials Charles Mackintosh		Plants Beatrix Potter	Seasonal changes Holly Green
Year 2	Animals including humans Steve Irwin		Everyday materials John McAdam		Plants Alan <u>Titchmarsh</u>	Living things and their habitats Liz <u>Bonnin</u>
Year 3	Animals including humans Marie Curie		Rocks Mary Anning	Forces and magnets Andre-Marie Ampere	Plants George Washington Carver	Light Thomas Edison
Year 4	Sound Alexander Bell	Electricity Michael Faraday	States of matter Niels Bohr	Animals including humans Lilian Lindsay	Living things and their habitats <u>Joean</u> Beauchamp Proctor	
Year 5	Earth and space Katherine Johnson	Forces Isaac Newton	Properties of materials Becky <u>Shroeder</u>	Changes in materials Sir Humphrey Davy	Animals including humans Jane Goodall	Living things and their habitats David Attenborough
Year 6	Light Percy Shaw	Electricity Nikola Tesla	Evolution Charles Darwin		Animals including humans Dr Daniel Hale Williams	Living things and their habitats Carl <u>Linneus</u>

Autumn Y4		Spring Y4		Summer Y4
Sound	Electricity	States of Matter	Animals including Humans	Living things and their habitats
Previous Learning		Previous Learning		Previous Learning
Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (Y1 - Animals, including humans)	I can identify and sort objects that use electricity to work. (N – Electricity) I can describe what battery and electrical devices do e.g. make a sound, make light, move. (N – Electricity)	Distinguish between an object and the material from which it is made. (Y1 - Everyday materials) Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. (Y1 - Everyday materials) Describe the simple physical properties of a variety of everyday materials. (Y1 - Everyday materials) Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Y1 - 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. (Y2 - Uses of everyday materials) Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2 - Uses of everyday materials)	I can talk about how I have changed and grown since I was a baby. (N – Animals, including Humans) I understand the elements of the life cycle of an animal (hen/duck). (N – Animals, including Humans) I can begin to understand the need to respect & care for the natural environment & all living things. (N – Animals, including Humans) I can understand the key elements of the life cycle of an animal (butterfly/frog) (N – Animals, including Humans) I can make observational pictures of animals. (R – Animals, including Humans) Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals, including humans) Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). (Y2 - Animals, including humans) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Y2 - Animals, including humans)	I can describe the habitats of animals in my locality and in polar regions. (R – Living things and their habitats) I can identify, name & describe some plants in my surroundings and talk about their similarities and differences. (R – Living things and their habitats) I can make observational pictures of plants and talk about how plants grow and change. (R – Living things and their habitats) I can identify, name & describe some minibeasts I find in my surrounding natural environment I can talk about the similarities and differences between animals. (R – Living things and their habitats) I can make observational pictures of animals. (R – Living things and their habitats) Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Y1 - Plants) Identify and describe the basic structure of a variety of common flowering plants, including trees. (Y1 - Plants) Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals including humans) Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and

			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. (Y3 - Animals, including humans)	mammals, including pets). (Y1 – Animals, including humans) Identify and name a variety of plants and animals in their habitats, including microhabitats. (Y2 - Living things and their habitats)
Curriculum objectives derived from National Curriculum		Curriculum objectives derived from National Curriculum		Curriculum objectives derived from National Curriculum
<p>Scientific Knowledge I can identify how sounds are made, associating some of them with something vibrating.</p> <p>I can recognise that vibrations from sounds travel through a medium to the ear.</p> <p>I can find patterns between the pitch of a sound and features of the object that produced it.</p> <p>I can find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>I can recognise that sounds get fainter as the distance from the sound source increases.</p> <p>Working Scientifically I can make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> <p>I can gather, record, classify and present data in a variety of ways to help in answering questions</p> <p>I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p>	<p>Scientific Knowledge I can identify common appliances that run on electricity.</p> <p>I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>I can 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.</p> <p>I can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>I can recognise some common conductors and insulators, and associate metals with being good conductors.</p> <p>Working Scientifically I can set up simple practical enquiries, comparative and fair tests.</p> <p>I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p>	<p>Scientific Knowledge I can compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>I can 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).</p> <p>I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> <p>Working Scientifically I can use straightforward scientific evidence to answer questions or to support their findings.</p> <p>I can ask relevant questions and using different types of scientific enquiries to answer them.</p> <p>I can set up simple practical enquiries, comparative and fair tests.</p> <p>I can report on findings from enquiries, including oral and written explanations, displays or</p>	<p>Scientific Knowledge I can describe the simple functions of the basic parts of the digestive system in humans.</p> <p>I can identify the different types of teeth in humans and their simple functions.</p> <p>I can construct and interpret a variety of food chains, identifying producers, predators and prey.</p> <p>Working Scientifically I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>I can identify differences, similarities or changes related to simple scientific ideas and processes.</p>	<p>Scientific Knowledge I can recognise that living things can be grouped in a variety of ways.</p> <p>I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>I can recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p>Working Scientifically I can ask relevant questions and using different types of scientific enquiries to answer them.</p> <p>I can gather, record, classify and present data in a variety of ways to help in answering questions.</p> <p>I can use straightforward scientific evidence to answer questions or to support their findings.</p>

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Key assessment questions		Key assessment questions		Key assessment questions
<p>Scientific Knowledge</p> <ol style="list-style-type: none"> 1) How does sound travel? 2) How is sound measured? 3) What happens when a sound hits the ear? 4) What does the pitch of a sound describe? <p>Working Scientifically</p> <ol style="list-style-type: none"> 1) I can make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. <p style="text-align: center;">String Telephones</p>	<p>Scientific Knowledge</p> <ol style="list-style-type: none"> 1) What is another name for a battery? 2) How would you know if a material conducts electricity? 3) Why is it dangerous to use an electrical appliance near water? 4) What is the name of a material which does not allow electricity to pass through it? <p>Working Scientifically</p> <ol style="list-style-type: none"> 1) I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. <p style="text-align: center;">Conductors</p>	<p>Scientific Knowledge</p> <ol style="list-style-type: none"> 1) Describe the particles in a solid, liquid and gas. 2) What is the freezing point of water? 3) What process describes the changing of water to ice? 4) Explain why puddles get smaller after it has rained. <p>Working Scientifically</p> <ol style="list-style-type: none"> 1) I can use straightforward scientific evidence to answer questions or to support their findings. <p style="text-align: center;">Dunking Biscuits</p>	<p>Scientific Knowledge</p> <ol style="list-style-type: none"> 1) Describe what happens in the digestive system. 2) What life process takes place when waste is pushed out? 3) What substance helps break down food in your mouth? 4) Name two ways we can look after our teeth. <p>Working Scientifically</p> <ol style="list-style-type: none"> 1) I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. <p style="text-align: center;">Teeth in Liquid</p>	<p>Scientific Knowledge</p> <ol style="list-style-type: none"> 1) Describe in what way a duck and a fish are similar. 2) Name one vertebrate and one invertebrate. 3) Name three things all animals do. 4) What can we use to help us accurately identify living things? <p>Working Scientifically</p> <ol style="list-style-type: none"> 1) I can gather, record, classify and present data in a variety of ways to help in answering questions. <p style="text-align: center;">Local Survey</p>