

Year 4 Science			
Living things and their habitats Term 1	Electricity Term 3	Sound Term 4	Animals including humans Term 6
Links to previous learning: Year 2 Living things	Links to previous learning: Year 3 Light	Links to previous learning: Music curriculum	Links to previous learning: Years 1, 2, 3 Animals including humans
Links to future learning: Year 5, 6 Living things and their habitats Writing opportunity – the work of David Attenborough	Links to future learning: Year 6 Electricity	Links to future learning: Year 5 Earth and Space	Links to future learning: Year 5 Animals including humans
Threshold concepts: Observation Making links Questioning scientific ideas and principles Communicating ideas Use of specialist vocabulary	Threshold concepts: Observation Making links Questioning scientific ideas and principles Communicating ideas Use of specialist vocabulary	Threshold concepts: Observation Making links Questioning scientific ideas and principles Communicating ideas Use of specialist vocabulary	Threshold concepts: Observation Making links Questioning scientific ideas and principles Communicating ideas Use of specialist vocabulary
Key learning:  -recognise that living things can be grouped in a variety of ways - explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment - recognise that environments can change and that this can sometimes pose dangers to living things. Notes and guidance Pupils should use the local environment throughout the year to raise and answer questions that help them to identify and study plants and animals in their habitat. They should identify how the habitat changes throughout the year. Pupils should explore possible ways of grouping a wide selection of living things that include animals and flowering plants and non-flowering plants. Pupils could begin to put	Key learning:  - 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. Notes and guidance	Key learning:  - 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. Notes and guidance Pupils should explore and identify the way sound is	Key learning:  -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. Notes and guidance Pupils should be introduced to the main body parts associated with the digestive system, for example, mouth, tongue, teeth, oesophagus, stomach and small and large intestine and explore questions that help them to understand their special functions.

<p>vertebrate animals into groups such as fish, amphibians, reptiles, birds, and mammals; and invertebrates into snails and slugs, worms, spiders, and insects.</p> <p>Note: Plants can be grouped into categories such as flowering plants (including grasses) and non-flowering plants, such as ferns and mosses.</p> <p>Pupils should explore examples of human impact (both positive and negative) on environments, for example, the positive effects of nature reserves, ecologically planned parks, or garden ponds, and the negative effects of population and development, litter or deforestation. They should find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall</p> <p>Pupils might work scientifically by: using and making simple guides or keys to explore and identify local plants and animals; making a guide to local living things; raising and answering questions based on their observations of animals and what they have found out about other animals that they have researched.</p>	<p>Pupils should construct simple series circuits, trying different components, for example, bulbs, buzzers and motors, and including switches, and use their circuits to create simple devices. Pupils should draw the circuit as a pictorial representation, not necessarily using conventional circuit symbols at this stage; these will be introduced in year 6.</p> <p>Note: Pupils might use the terms current and voltage, but these should not be introduced or defined formally at this stage. Pupils should be taught about precautions for working safely with electricity.</p> <p>Pupils might work scientifically by: observing patterns, for example, that bulbs get brighter if more cells are added, that metals tend to be conductors of electricity, and that some materials can and some cannot be used to connect across a gap in a circuit</p>	<p>made through vibration in a range of different musical instruments from around the world; and find out how the pitch and volume of sounds can be changed in a variety of ways.</p> <p>Pupils might work scientifically by: finding patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses. They might make earmuffs from a variety of different materials to investigate which provides the best insulation against sound. They could make and play their own instruments by using what they have found out about pitch and volume.</p>	<p>Pupils might work scientifically by: comparing the teeth of carnivores and herbivores, and suggesting reasons for differences; finding out what damages teeth and how to look after them. They might draw and discuss their ideas about the digestive system and compare them with models or images.</p>
<p>Working scientifically expectations:</p> <ul style="list-style-type: none"> <li>-asking relevant questions and using different types of scientific enquiries to answer them</li> <li>-setting up simple practical enquiries, comparative and fair tests</li> <li>- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</li> <li>- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</li> <li>- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</li> <li>- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</li> <li>- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</li> <li>- identifying differences, similarities or changes related to simple scientific ideas and processes</li> <li>- using straightforward scientific evidence to answer questions or to support their findings.</li> </ul>			

Terms 2 and 5 – Retrieve, Revisit, Review