

Year group 4 Science

Living Things and their habitats	Animals including humans	States of matter	Electricity	Sound	Working Scientifically
L1 I can recognise that living things can be grouped in a variety of ways	A1 I can describe the simple functions of the basic parts of the digestive system in humans.	S1 I can compare and group materials together, according to whether they are solids, liquids or gases.	E1 I can identify common appliances that run on electricity.	SO1 I can identify how sounds are made, associating some of them with something vibrating.	W1 I can set up simple practical enquiries, comparative and fair tests.
L2 I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environments.	A2 I can identify the different types of teeth in humans and their simple function.	S2 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).	E2 I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.	SO2 I can recognise that vibrations from sounds travel through a medium to the ear.	W2 I can make systematic and careful observations and, where appropriate, take accurate measurements using standard units.
L3 I can recognise that environments can change and that this can sometimes pose dangers to living things	A3 I can construct and interpret a variety of food chains, identifying producers, predators and prey.	S3 I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	E3 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.	SO3 I can find patterns between the pitch of a sound and features of the object that produced it.	W3 I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.

			E4 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.	SO4 I can find patterns between the volume of a sound and the strength of the vibrations that produced it.	W4 I can use scientific evidence to answer questions or to support their findings.
			E5 I can recognise some common conductors and insulators, and associate metals with being good conductor.	SO5 I can recognise that sounds get fainter as the distance from the sound source increases.	W5 I can record findings using simple scientific language, branching databases, graphs and tables.

Topic coverage

Autumn Hocus Pocus	Spring Around the world	Summer The Romans
SI, S2, S3, SO1, SO2, SO3, SO4, SO5, WI, W2, W3, W4, W5	AI, A2, A3, LI, L2, L3, WI, W2, W3, W4, W5	E1, E2, E3, E4, E5, WI, W2, W3, W4, W5
Vocabulary		
<u>States of matter</u> Solid, liquid, gas, temperature, heating, freezing point, boiling point, particles, evaporation, condensation, Thermometer, thermal insulation, celsius	<u>Animals including humans</u> Mouth, tongue, teeth, canine, incisor, molar, oesophagus, stomach, small intestine, large intestine, digestive system herbivore, carnivore, omnivore	<u>Electricity</u> Cells (batteries) wires, switches, circuit, series (parallel, buzzers, bulbs, mains electricity insulators, conductors

<p>(C)</p> <p style="text-align: center;">Sound</p> <p>Volume, vibration, sound wave, loud, soft, high pitch, low pitch, tone, speaker, (amplitude, frequency) travel, fainter, distance</p>	<p style="text-align: center;"><u>Living things and their habitats</u></p> <p>Fish, Reptiles, Mammals, Birds, Amphibians, snails, slugs, worms, spiders, insects, environment, habitat, vertebrate, invertebrate, exo skeleton, adaptation Human impact – negative & positive</p>	
<p>Working Scientifically Vocabulary</p>		
<p><u>Working scientifically</u></p> <p><u>Question, prediction, method, variables, fair test, recording, report, conclude, evaluate (NC)</u></p> <p>Investigation, investigation cycle, enquiry, prediction, variable, dependent variable, independent variable, constant, patterns, equipment, apparatus, method, results, conclusion</p> <p>Research - relevant questions, scientific enquiry, comparative and fair test, systematic, careful observation, accurate measurements.</p> <p>Equipment - thermometer, data logger,</p> <p>Data - gather, record, classify, present</p> <p>Plan - variables, measurements, accuracy, precision, repeat readings,</p> <p>Report data - scientific diagrams, labels, classification keys, tables, scatter graphs, bar graph and line graphs, predictions, further comparative and fair test,</p> <p>Report and present - conclusions, causal relationship, explanations, degree of trust, oral and written display and presentation.</p>		
<p>I will know...</p>		
<p style="text-align: center;"><u>States of matter</u></p> <p>- what a solid is</p>	<p style="text-align: center;"><u>Animals including humans</u></p> <p>- what the purpose of the digestive system is</p>	<p style="text-align: center;"><u>Electricity</u></p> <p>- the names of electrical appliances</p> <p>- how to construct a simple electrical circuit</p>

- what a liquid is
- what a gas is
- how to group a variety of materials into solids, liquids and gases
- how they change from a solid to a liquid to a gas
- how to explain by investigating, drawing, recording etc how states of matter change when being heated and cooled
- how to measure temperature in Celsius
- about and be able to explain the water cycle
- what condensation is
- what evaporation is
- the difference between condensation and evaporation
- how quickly something evaporates is dependent on temperature
- how to investigate how solids, liquids and gases change state
- how to record and communicate my evidence in different ways
- the appropriate scientific vocabulary and will be able to confidently read, write and apply this in my work

Sound

- the names of the parts of the human digestive system and identify them
- how we can feel unwell if the digestive system is not working correctly
- what a molar tooth is and its purpose
- what a canine tooth is and its purpose
- what an incisor tooth is and its purpose
- the importance of cleaning my teeth
- what a food chain is
- what a producer is
- what a predator is
- what prey is
- how to construct and interpret a variety of food chains
- how to use the investigation cycle
- how to record my findings in different ways and evaluate what I find out
- the appropriate scientific vocabulary and will be able to confidently read, write and apply this in my work

Living things and their habitats

- how to group living things in a variety of ways

- what a cell is and its purpose in an electrical circuit
- what a battery is and its purpose in an electrical circuit
- the purpose of the wires in an electrical circuit
- why a buzzer (sound) is important in some electrical circuits
- how to use a bulb and its purpose in an electrical circuit
- how to use a switch and its purpose in a circuit
- how to investigate different circuits and predict if they will work and reason why
- what a conductor is
- what an insulator is
- names of metals that are good conductors and insulators
- how to use the investigation cycle to investigate different circuits
- how to record my findings in different ways and evaluate what I find out
- the appropriate scientific vocabulary and will be able to confidently read, write and apply this in my work

<ul style="list-style-type: none"> - how sounds are made - that sounds travel on vibrations (waves) - that sound can travel through a medium to the ear - that the pitch of a sound depends on the object making the sound - that the volume of the sound depends on the strength of the vibration - that sound gets fainter the further away it is from the source making it - how to investigate patterns in sound - how to investigate how sound travels using the investigation cycle - how to record and communicate my evidence in different ways - the appropriate scientific vocabulary and will be able to confidently read, write and apply this in my work 	<ul style="list-style-type: none"> - how to use classification keys to identify and name different living things - the names of a variety of animals and plants in the local environment - the names of a variety of animals and plants in the wider environment - the names of different environments - that environments can change and can be a danger to animal and plant life - how to use the investigation cycle - how to record my findings in different ways and evaluate what I find out - the appropriate scientific vocabulary and will be able to confidently read, write and apply this in my work 	
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