

SCIENCE UNIT OVERVIEWS 2020-2021

Year group and unit	Working Scientifically	Science Content & Knowledge	Previous learning to recap	Key vocabulary
Year 4 Autumn 1 <i>How does sound travel? How do we hear different sounds?</i>	Can they ask relevant questions and use different types of scientific enquiries to answer them? E.g. what material would be the best to make earmuffs and why? Can they set up simple fair tests? Can they gather, record and present data in different ways? E.g. use a decibel meter to judge the volume of a sound? https://apps.apple.com/us/app/decibel-db-sound-level-meter/id1227650795	Can they identify how sounds are made, associating some of them with something vibrating? Can they recognise that vibrations from sounds travel through a medium to the ear? Can they find patterns between the pitch of a sound and features of the object that produced it? Can they find patterns between the volume of a sound and the strength of the vibrations that produced it? Can they recognise that sounds get fainter as the distance from the sound source increases?	New learning (link with music) Links with materials: Y1 Spring 2: Grouping everyday materials Y2 Autumn 2: how materials are used for different purposes	Vibration Speed of sound Soundproof Decibel Eardrum Pitch Volume Sound waves
Year 4 Autumn 2 <i>How do scientific processes have an impact on the states of materials?</i>	Can they identify differences, similarities or changes related to simple scientific ideas and processes? E.g. how water can exist in three different states Can they make systematic and careful observations...taking accurate measurements using standard units including thermometers? E.g. investigate how quickly a material dries at different temperatures	Can they compare and group materials together, according to whether they are solids, liquids or gases? Can they 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)? Can they identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature?	Y1 Spring 2: Grouping everyday materials Y2 Autumn 2: how materials are used for different purposes Y4 Autumn 1: Sound and how it travels through different materials	Water cycle State Temperature Degrees Celsius Evaporation Condensation Heated Cooled Water vapour Precipitation
Year 4 Spring 1 <i>How can we use classification keys to name and group animals?</i>	Can they use simple keys to explore and identify local plants/animals? Can they use straightforward scientific evidence to answer questions or to support their findings? E.g. why a particular animal is considered a mammal or reptile? Can they classify and present data in a variety of ways?	Can they recognise that living things can be grouped in a variety of ways? Can they explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment? Can they recognise that environments can change and that this can sometimes pose dangers to living things? Can they understand that their local area changes throughout the year and therefore the habitat of living things change?	EY: How can we look after our planet Y1 Spring 1: How plants change over time and plants from local area Y1 Summer 2: Comparing animals	Habitat Classify Vertebrate Invertebrate Classification keys Environment Mammal Insect Bird Fish Amphibian

SCIENCE UNIT OVERVIEWS 2020-2021

		<p>Can they begin to group vertebrates into groups such as amphibians and reptiles? (this is revisited later)</p> <p>Can they understand that humans have an impact, both positive and negative, on environments? (Link with Geography)</p>	<p>Y2 Spring 2: Habitats</p> <p>Y3 Spring 2: How plants rely on living things for pollination</p>	<p>Reptile</p> <p>Cold blooded</p> <p>Warm-blooded</p>
<p>Year 4 Spring 2</p> <p><i>How are conductors used to support electrical circuits?</i></p>	<p>Can they report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions? E.g. which materials are good conductors or the relationship between amount of cells and brightness of bulb.</p> <p>Can they set up simple practical enquiries, comparative and fair tests? e.g. like above</p> <p>Can they make predictions based on their scientific knowledge and understanding?</p> <p>Can they make suggestions for further improvements and raise further questions?</p>	<p>Can they identify common appliances that run on electricity?</p> <p>Can they construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers?</p> <p>Can they 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>Can they 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>Can they recognise some common conductors and insulators, and associate metals with being good conductors?</p>	<p>New learning (linked with materials)</p> <p>Y1 Spring 2: Grouping everyday materials</p> <p>Y2 Autumn 2: how materials are used for different purposes</p> <p>Y4 Autumn 1: Sound and how it travels through different materials</p>	<p>Appliance</p> <p>Circuit</p> <p>Cells</p> <p>Wires</p> <p>Bulbs</p> <p>Switches</p> <p>Buzzers</p> <p>Series circuit</p> <p>Conductors</p> <p>Insulators</p> <p>Metal</p> <p>Battery</p>
<p>Year 4 Summer 2</p> <p><i>How does the human digestive system work?</i></p>	<p>Can they make comparisons? E.g. comparing the teeth of carnivores and herbivores – suggesting why they are different?</p> <p>Can they record findings using simple scientific language, drawings, labelled diagrams? E.g. how food is digested through the body</p>	<p>Can they describe the simple functions of the basic parts of the digestive system in humans?</p> <p>Can they identify the different types of teeth in humans and their simple functions?</p> <p>Can they construct and interpret a variety of food chains, identifying producers, predators and prey?</p> <p>Can they understand the job of the salivary glands and how they aid digestion?</p> <p>Can they understand the food pyramid and how eating properly can keep humans stay healthy?</p>	<p>EY: What animals and humans need to grow to stay healthy and safe</p> <p>Y2 Summer 2: Exercise and nutrition</p> <p>Y3 Summer 2: Types of nutrition and how humans stay healthy</p> <p>Y4 Spring 1: Grouping animals and classification keys</p>	<p>Digestion</p> <p>Oesophagus</p> <p>Intestines</p> <p>Stomach</p> <p>Salivary gland</p> <p>Teeth</p> <p>Incisors</p> <p>Canines</p> <p>Molars</p> <p>Food chain</p> <p>Producer</p> <p>Predator</p> <p>Prey</p> <p>Carnivore</p> <p>Herbivore</p> <p>Omnivore</p>

SCIENCE UNIT OVERVIEWS 2020-2021