



Science MTP: Sequence of lessons		Electricity		Year 4	Focus Scientist: Benjamin Franklin
<p><u>Reference to the Programme of Study 2014</u></p> <p>Pupils should be taught to: 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.</p>			<p><u>Key vocabulary</u></p> <p>Electricity    <b>Appliances:</b> fridge, freezer, TV, computer, iron, kettle,    Series circuit <b>Components:</b> battery, bulb (lamp), bulb (lamp) holder, buzzer, crocodile clip, leads, wires, switch <b>Describing words:</b> brighter, duller, slow, fast, quiet, loud    Conductor, insulator <b>Effects of electricity:</b> Light, sound, movement, heat    <b>Switches</b> – open, close</p>		
<p><b>Lesson 1</b></p> <p>To be able to identify common appliances that run on electricity.</p>	<p><b>Lesson 2</b></p> <p>To be able to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>To be able to 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><b>Lesson 3</b></p> <p>To be able to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>To be able to use results to make predictions.</p>	<p><b>Lesson 4</b></p> <p>To be able to recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p><b>Lesson 5</b></p> <p>To be able to recognise that a switch opens and closes a circuit.</p>	<p><b>Lesson 6</b></p> <p>To learn about a significant scientist.</p>
<p><b>Uses of Electricity</b></p> <p>What can electricity do?</p>	<p><b>Constructing Series Circuits</b></p> <p>What components does a circuit need to work?</p>	<p><b>Fixing Circuits</b></p> <p>Which circuits will work? Can you repair the ones that do not work?</p>	<p><b>Conductors and Insulators</b></p> <p>Which materials are conductors/insulators?</p>	<p><b>Switches and Bulbs</b></p> <p>Why doesn't a lightbulb switch on in an open circuit?</p>	<p><b>Benjamin Franklin</b></p> <p>Who is Benjamin Franklin and why is he significant?</p>



Science MTP: Sequence of lessons			Animals including Humans	Year 4	Focus Scientist: <b>Al-Jahiz</b>
<p><u>Reference to the Programme of Study 2014</u></p> <p>Pupils should be taught to:            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.</p>			<p><u>Key vocabulary</u></p> <p>Digestive system –, oesophagus, stomach, acid, small intestine            Protein, vitamin, mineral, carbohydrate, fats, energy, growth, repair. Saliva            Teeth – Incisors, canines, premolars, molars            Function            Foodchain – producer, consumer, predator, prey</p>		
<p><b>Lesson 1</b></p> <p>To identify the different types of teeth in humans and their simple functions.</p>	<p><b>Lesson 2</b></p> <p>To be able to describe the simple functions of the basic part of the digestive system in humans.</p>	<p><b>Lesson 3</b></p> <p>To be able to describe the simple functions of the basic part of the digestive system in humans.</p>	<p><b>Lesson 4</b></p> <p>To be able to describe the simple functions of the basic part of the digestive system in humans.</p> <p>To be able to record findings using labelled diagrams.</p>	<p><b>Lesson 5</b></p> <p>To be able to construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p><b>Lesson 6</b></p> <p>To compare the teeth of different animals and link this with their role in a food chain.</p>
<p><b>Teeth Types</b></p> <p>How many different types of teeth do we have?</p>	<p><b>Chewing Food</b></p> <p>What happens when we chew food?</p>	<p><b>Stomach</b></p> <p>What does the stomach do?</p>	<p><b>Digestive System</b></p> <p>What does each part of the digestive system do?</p>	<p><b>Food Chains</b></p> <p>What do different animals eat?</p>	<p><b>Animal Teeth</b></p> <p>How are the teeth of herbivores, carnivores and omnivores similar? How are they different?</p>



Science MTP: Sequence of lessons			Sound	Year 4	Focus Scientist: Ernst Mach	
<p><a href="#">Reference to the Programme of Study 2014</a></p> <p>Pupils should be taught to: Identify how sounds are made, associating some of them with something vibrating Recognise that vibrations from a sound 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.</p>			<p><a href="#">Key vocabulary</a></p> <p><b>Ways to create sound</b> – bang, blow, shake, and pluck</p> <p><b>Loudness</b> – quiet, quieter, quietest, loud, louder and loudest</p> <p><b>Pitch</b> - low, lower, lowest, high, higher, and highest</p> <p><b>Vibrations</b></p> <p><b>Source</b></p>			
<p><b>Lesson 1</b></p> <p>To be able to recognise that sounds get fainter as the distance from the sound source increases.</p> <p><a href="#">To be able to use a scientific enquiry to answer a question.</a></p> <p><a href="#">To be able to set up a simple practical enquiry.</a></p>	<p><b>Lesson 2</b></p> <p>To be able to recognise that sounds get fainter as the distance from the sound source increases.</p>	<p><b>Lesson 3</b></p> <p>To be able to identify how sounds are made, associating some of them with something vibrating.</p> <p><a href="#">To be able to use a scientific enquiry to answer a question.</a></p>	<p><b>Lesson 4</b></p> <p>To be able to recognise that vibrations from a sound travel through a medium to the ear.</p> <p>To be able to find patterns between the volume of a sound and the strength of the vibrations that produced it.</p>	<p><b>Lesson 5</b></p> <p>To be able to find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p><a href="#">To be able to report on findings from an enquiry.</a></p> <p><a href="#">To be able to make systematic and careful measurements with a data logger.</a></p>	<p><b>Lesson 6</b></p> <p>To be able to find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p><a href="#">To be able to set up simple fair tests.</a></p> <p><a href="#">To be able to make systematic and careful measurements with a data logger.</a></p>	<p><b>Lesson 7</b></p> <p>To be able to find patterns between the pitch of a sound and features of the object that produced it.</p> <p><a href="#">To be able to set up simple fair tests.</a></p>
<p><b>Loudness</b></p> <p>What happens to the sound of the drum when we get further away from it?</p>	<p><b>Fire Alarms</b></p> <p>Where in the school would be the best places to put fire alarms?</p>	<p><b>Sound</b></p> <p>What is a ‘sound’?</p>	<p><b>Sound Travel</b></p> <p>Where does sound go when it has been made?</p> <p>How can we represent a sound wave?</p>	<p><b>Altering Sounds</b></p> <p>How can we alter the loudness of a sound?</p>	<p><b>Volume of Sound Patterns</b></p> <p>How does the height from which a tube is dropped affect the loudness of the sound produced?</p>	<p><b>Pitch of Sound</b></p> <p>Does the length of an elastic band affect the pitch of the sound produced?</p>



Science MTP: Sequence of lessons			States of Matter	Year 4	Focus Scientist: Daniel Fahrenheit
<p><u>Reference to the Programme of Study 2014</u></p> <p>Pupils should be taught to:</p> <p>Compare and group materials together, according to whether they are solids, liquids or gases</p> <p>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>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</p>			<p><u>Key vocabulary</u></p> <p><b>States of matter</b> - Solid, liquid and gas</p> <p><b>Examples of gases</b> (at room temperature and pressure) – Oxygen, hydrogen, helium, carbon dioxide, methane</p> <p><b>Examples of liquids</b> (at room temperature and pressure) – Water, milk, juice, petrol, oil</p> <p><b>Examples of solids</b> (at room temperature and pressure) –Wood, rocks, metal, plastic, glass, wool, leather, etc</p> <p><b>Processes</b> – Melting, condensation, evaporation, solidifying, freezing</p> <p>Water cycle    Water vapour    Steam    Heating    Cooling</p>		
<p><b>Lesson 1</b></p> <p>To be able to compare and group materials together, according to whether they are solids, liquids or gases.</p>	<p><b>Lesson 2</b></p> <p>To be able to set up a fair test.</p> <p>To be able to use results to draw simple conclusions.</p>	<p><b>Lesson 3</b></p> <p>To be able to observe that some materials change state when they are heated or cooled.</p> <p>To be able to use a thermometer to take accurate measurements.</p>	<p><b>Lesson 4</b></p> <p>To be able to observe that some materials change state when they are heated or cooled.</p> <p>To be able to set up a simple test.</p>	<p><b>Lesson 5</b></p> <p>To be able to measure or research the temperature at which water changes state.</p> <p>To be able to use a thermometer to take accurate measurements</p>	<p><b>Lesson 6</b></p> <p>To be able to identify and describe the different stages of the water cycle.</p>
<p><b>Solids, Liquids and Gases</b></p> <p>Which state of matter are you materials?</p>	<p><b>Liquid Testing</b></p> <p>Which liquid moves the fastest?</p>	<p><b>Melting</b></p> <p>What happens to solids when they are heated?</p>	<p><b>Freezing</b></p> <p>Do all liquids freeze?</p>	<p><b>Water</b></p> <p>At what temperatures does water change state?</p>	<p><b>Water Cycle</b></p> <p>What is the water cycle?</p>



Science MTP: Sequence of lessons			Living things and Habitats		Year 4	Focus Scientist: <b>Carl Linnaeus</b>
<p>Pupils should be taught to: 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.</p>			<p><b>Key vocabulary</b></p> <p>Habitat, micro habitat      Pond, meadow, log pile, woodland, river, lake, beach, cliff Organism – plant, animal      environment, endangered, habitat, pollution, species</p> <p><b>Trees</b> - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine, holly, etc</p> <p><b>Wild flowering plants</b> - cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd’s purse, sorrel, spear thistle, white campion, white deadnettle and yarrow.</p> <p><b>Garden plants</b> – crocus, daffodil, bluebells, etc</p> <p><b>Parts of plants</b> – roots, branch, trunk, stalk, leaf, flower, petal, seeds, bulbs and twigs</p> <p><b>Invertebrates</b> – snail, slug, woodlouse, spider, beetle, fly, etc</p> <p><b>Pond animals</b> – pond skater, water slater, ramshorn snail, pond snail, leech, common frog, smooth newt, etc</p>			
<p><b>Lesson 1</b></p> <p>To recognise that living things can be grouped in a variety of ways.</p>	<p><b>Lesson 2 &amp; Lesson 3</b></p> <p>To identify, group and classify vertebrate species.</p>	<p><b>Lesson 4</b></p> <p>To recognise that living things can be grouped in a variety of ways.</p>	<p><b>Lesson 5</b></p> <p>To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p>	<p><b>Lesson 6</b></p> <p>To be able to recognise that living things can be grouped in a variety of ways.</p> <p>To be able to explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>To be able to gather, record, classify and present data in a variety of ways to help in answering questions.</p>	<p><b>Lesson 7</b></p> <p>To be able to recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p><b>Lesson 8</b></p> <p>To use scientific evidence to understand why living things may become endangered.</p>
<p><b>Grouping Living Things</b></p> <p>How can we classify different animals?</p>	<p><b>Classifying Vertebrates</b></p> <p>How can we groups different vertebrates?</p>	<p><b>Identifying Plants</b></p> <p>Can you use a flower to identify the plant?</p>	<p><b>Understanding Classification Keys</b></p> <p>What are classification keys?</p>	<p><b>Creating Classification Keys</b></p> <p>How can we identify different invertebrates?</p>	<p><b>Local Habitat Survey</b></p>	<p><b>Endangered and Extinct.</b></p>



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