



NC Statement	Year 3 & 4 Electricity (Year A: whole of autumn term)	Lesson												
		1	2	3	4	5	6	7	8	9	10			
identify common appliances that run on electricity	Identify objects that need electricity to work.	x												
	Group common appliances that run on electricity according to whether they use mains/batteries.	x												
	Group electrical appliances according to the effect the electricity has - a temperature change, movement or light.		x											
	Know how to identify the strength and type of battery being used.		x											
construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers	Name the components within a circuit.			x										
	Recognise when a circuit is complete and build circuits that work.			x										
	Draw circuit diagrams (without conventional symbols).			x										
	Recognise that as the number of batteries in a circuit is increased, the brightness/volume/speed also increases.			x										
	Recognise that light bulbs do not need to be a specific way in a circuit to work.				x									
	Recognise that buzzers need to be a specific way in a circuit to work but lights do not.				x									
	Recognise that the direction motors spin in is dependent on which way it is connected in a circuit.				x									
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	Understand that bulbs in a circuit need a specific voltage in order to shine at their optimum brightness.			x										
	Be able to problem shoot if a complete circuit is not working.			x										
	Know that bulbs in a series circuit will not shine with the same brightness.			x										
	Know that the length of wire in a circuit affects bulb brightness.					x								
recognise that a switch opens and	Know how a switch works						x							





## Year 3 & 4

States of Matter (Year A: whole of spring term)

Lesson

1	2	3	4	5	6	7	8	9	10
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**NC Statement**

**compare and group materials together, according to whether they are solids, liquids or gases**

Know common solids, liquids and gases.

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Know how molecules are arranged in solids, liquids and gases.

X									
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Know how solids, liquids and gases behave.

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**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)**

To use a thermometer to measure temperature.

	X								
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To know that ice freezes and melts at zero degrees Celsius.

	X								
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Know that water boils at 100 degrees Celsius.

	X								
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Understand that freezing is a change from a liquid to a solid.

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To understand that not all liquids freeze.

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To understand that different liquids freeze at different temperatures.

		x							
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Understand that melting is a change from a solid to a liquid.

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To understand that not all solids melt.

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To understand that different solids melt at different temperatures.

			x						
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**identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature**

Know that evaporation is a change from liquid water to water vapour gas.

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Know common examples of evaporation e.g. clothes drying on a line, hair drying without added heat, puddles drying up etc.

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Know that surface area, temperature and movement all effect evaporation rate.

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 <b>NC Statement</b>	<b>Year 3 &amp; 4</b> Living Things Including Humans - digestive system, teeth, food chains (Year A: whole of summer term)	Lesson									
		1	2	3	4	5	6	7	8	9	10
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	Know that animals can be grouped into vertebrates (FARMB) and invertebrates.	X									
	Know the 7 life processes.		X								
	Know that animals cannot make their own food unlike plants and need to eat.		X								
identify that humans and some other animals have skeletons and muscles for support, protection and movement	Know that vertebrates have skeletons on the inside and some animals have exoskeletons.			X							
	Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment				X						
	Know that skeletons support bodies, protect organs and help with movement. Bones are hard, rigid and smooth.					X					
	Know the names of some bones of the body - skull, spine, pelvis, upper arm, lower arm, upper leg, lower leg, hand bones, foot bones, collar bone.					X					
	Know that muscles work in pairs - one contracts whilst one relaxes.						X				
describe the simple functions of the basic parts of the digestive system in humans identify the different types of	Identify the different types of teeth in humans and their simple functions					X					
	Know what causes tooth decay and gum disease.						X				
	Know how to prevent tooth decay and gum disease.						X				








recognise that they need light in order to see things and that dark is the absence of light	Know that without light, you cannot see.	X																
	Know some man-made and natural light sources and some common misconceptions.	X																
	Know how people see things. Know light travels in straight lines.	X																
	Know the structure of the eye - external - and what each part does.	x																
notice that light is reflected from surfaces	Identify which surfaces reflect light.	X																
	Know what convex and concave mirrors are and how they effect a reflection.	X																
	Redirect light to a target using mirrors.	x																
recognise that light from the sun can be dangerous and that there are ways to protect their eyes	Know that you should never look directly at the sun or through binoculars/telescopes etc.		X															
	Understand UV protection and sunglasses and to wear peaked hats.		X															
	Know to protect eyes from lasers and other bright lights.		X															
recognise that shadows are formed when the light from a light source is blocked by an opaque object	Know that a shadow is caused by light being blocked.			X														
	Create shadow puppets to see that drawn on lines can not be seen in shadows, cut out areas do not cast a shadow.			X														
	Compare shadows cast by opaque, transparent and translucent objects.			X														
	Observe that shadows are black/grey, the same shape as the object, attached to the object.			X														
find patterns in the way that the size of shadows change	Find patterns in the way that the size of shadows change- distance between object and the light source and also the object and the surface.				X													
	Find patterns in the way that the size of shadows change- light source angle.					X												
	Observe shadows cast by the Sun over the course of a day. Know how sundials work.					x												
identify how sounds are made, associating some of them with something vibrating	Know that sounds are made when an object vibrates.													x				

recognise that vibrations from sounds travel through a medium to the ear	Begin to know the structure of the ear and how it works.									x			
	Investigate how sound travels better through solids than liquids and gases.									x			
find patterns between the pitch of a sound and features of the object that produced it	Know how to change the pitch of a stringed instrument, drum, instrument with bars/tubes, bottles of water.										x		
find patterns between the volume of a sound and the strength of the vibrations that produced it	Know that to make a louder sound, the object needs to be hit hard, blown stringer etc.										x		
recognise that sounds get fainter as the distance from the sound source increases	Know that sound waves travel in circles away from the object with the object in the centre.											x	
	Know who needs to protect their ears and how.												x
	Know that sound insulators stop sound from going through them and conductors do let sound through them.												x
Working Scientifically	asking relevant questions and using different types of scientific enquiries to answer them	x		x	x	x					x		
	setting up simple practical enquiries, comparative and fair tests	x		x	x	x					x		
	making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	x		x	x	x					x		
	gathering, recording, classifying and presenting data in a variety of ways to help in answering questions	x		x	x	x					x		
	recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	x		x	x	x					x		
	reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	x		x	x	x					x		
	using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	x		x	x	x					x		

identifying differences, similarities or changes related to simple scientific ideas and processes		x		x	x	x		x		
using straightforward scientific evidence to answer questions or to support their findings.		x		x	x	x		x		
Week 11 - summative assessment, fill in any gaps in knowledge										

 <b>NC Statement</b>	<b>Year 3 &amp; 4</b> <b>Living things and their habitats - classification, plants, rocks</b> <b>(Whole of summer term)</b>	Lesson									
		1	2	3	4	5	6	7	8	9	10
<b>identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</b>  <b>explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</b>	Know the structure of a plant and their functions including photosynthesis - root, stem/stalk, leaves, sepal, flower, petals, pollen.	X									
	Dissect flowering plants and observe/identify parts.	x									
	Know the life cycle of a plant.		X								
	Know that trees and grass are plants.	X									
<b>explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</b>	Know that seeds need water and warmth to germinate and plants need space, water and light to grow.			X							
	Know that different plants have different requirements.				X						
	Know that plants can grow without soil.				X						
<b>investigate the way in which water is transported within plants</b>	Observe how water absorbed by the roots is transported throughout a plant.			x	X						
	Observe transpiration.				x						



making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers									X	
gathering, recording, classifying and presenting data in a variety of ways to help in answering questions									X	
recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables									X	
reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions									X	
using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions									X	
identifying differences, similarities or changes related to simple scientific ideas and processes									X	
using straightforward scientific evidence to answer questions or to support their findings.			x	x					X	

Week 11 - summative assessment, fill in any gaps in knowledge