

Term	Autumn One	Autumn Two	Spring One	Spring Two	Summer
Topic	States of Matter	Sound	Animals Including Humans	Electricity	Living things in their habitats
Scientific enquiry	Classifying	Researching	Comparative/fair testing	Pattern seeking	Observing over time
Working scientifically skills	To ask scientific questions	To plan an enquiry To make a prediction	To observe closely To measure accurately	To gather/record results To present results To interpret results	To draw conclusions To evaluate an investigation
Building science capital	Science experiments	Musicians	Pets Animals in the local environment	Local electricians Parents	Kew gardens Use of Edible Garden space, sensory garden and glass house.
Composite knowledge	What is a solid, liquid, gas? What processes occur when changing state? What is the water cycle and how does it work?	How are sounds made? How does the human ear work?	How does the human digestive system work? What are the functions of human teeth? How does the food chain work?	How does electricity work? How do we construct a working circuit? Why does a circuit work?	How are living things classified? What impact do humans play on the environment? What are the different groups of living things in my environment? How can changes in the environment impact living things?
Component knowledge	compare and group materials together, according to whether they are solids, liquids or gases 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) identify the part	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	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	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 a lamp will light in a simple series circuit, based on whether the lamp is part of a	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 identify the characteristics of living things. discuss how to make a positive impact on the environment

	played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	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		complete loop with a battery recognise that a switch opens and closes a circuit and associate this with whether a lamp lights in a simple series circuit recognise some common conductors and insulators, and associate metals with being good conductors	
Vocabulary	Solid, Liquid, Gas, Evaporation, Condensation, Particles, Temperature, Freezing, Heating	Volume, Vibration, Wave, Pitch, Tone, Speaker	Mouth, Tongue, Teeth, Oesophagus, Stomach, Small Intestine, Large Intestine, Herbivore, Carnivore, Canine, Incisor, Molar,	Cells, Wires, Bulbs, Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators	Vertebrates, Fish, Amphibians, Reptiles, Birds, Mammals, Invertebrates, Snails, Slugs, Worms, Spiders, Insects, Environment, Habitats
Links to prior knowledge			Year one Year two Year three		Year two Year three
Key knowledge for assessment	Compare similarities and difference of various materials. Explain the impact melting and freezing has on states of matter.	Describe how sound can travel through different mediums Identify the parts and explain the function of the human ear. Explain how vibrations work and their impact on pitch and volume.	Identify different parts of the digestive system and how they work together. Identify teeth and their functions. Describe a food chain Recognise the human reproductive system (RSE)	Label simple circuits using the correct scientific vocabulary Understand how a simple circuit works and how electricity travels.	Name the different groups of living things Understand how the environment changes and how this can be done by and to living things.
Cross-curricular links	Seven wonders – precipitation is different in different places due to water cycle	Music and sound waves	Human digestive system comparisons around the world? UK diet/food traditions PHSE Relationships	Compare transports from now and Anglo-Saxon era Electrical systems of now and what the Anglo Saxons did back then	Different countries, habitats, environments and landscapes

Half Termly Planning

Autumn 1	Lesson Objective	Main Task	Resources
Lesson 1	L.O. To describe the properties of the 3 states of matter	Discuss what the three states of matter are, look at different items and classify them into groups, solid liquids gases	Balloons, cornflour, water, blocks, water
Lesson 2	L.O. To describe the properties of solids, liquids, and gases	Drawing a table to show the properties of the 3 states of matter. Table to include a diagram of the particle and the main properties. Describe what the particles are like in each state of matter.	Word banks Scaffolds
Lesson 3	L.O. To understand the changing states of matter.	Create Ice cream in a bag and discuss the changes in states shown during the experiment.	Milk, bags, ice
Lesson 4	L.O. To name and describe the changing states of matter.	Discuss the changing states of matter when heating and cooling. Videos which show reversible processes evaporation, condensation.	Videos BBC Scaffolds Word banks
Lesson 5	L.O. To explain what happens to states of matter when they change.		Videos Scaffolds Word banks Diagrams
Lesson 6	L.O. To understand the water cycle	Draw a diagram of water cycle and label the stages. Focus on the state of matter changes – evaporation, condensation and precipitation.	Word banks Models
Lesson 7	Assessment week	Bespoke assessment based on the previous 5 weeks learning	2 levels of assessment
Lesson 8			

Autumn 2	Lesson Objective	Main Task	Resources	Vocabulary
Lesson 1	To identify how sounds are made.	Explain how sound is made, give an example and draw a diagram of the example.	Widgit word bank, sentence starters and pictures	Vibrate, sound waves, ear, hear, air particles, travel, object, strings
Lesson 2	To understand how the human ear works.	Draw a diagram of the ear and explain how it works.	Sentence ordering strips	Auricle, ear canal, sound waves, hammer, incus, stirrup, cochlea, auditory nerve
Lesson 3	To conduct an experiment using an elastic band.	Conduct an experiment to show how the length and tightness of an elastic band has an impact on the frequency and pitch of a sound.	Widgit word bank	sound waves, pitch, frequency, elastic band, tight, loose

Lesson 4	To recognise that sounds get fainter as the distance from the sound source increases.	Conduct an experiment to show that sound gets fainter as distance increases	Widgit word bank	Closer, further, louder, fainter, distance, sound source, volume
Lesson 5				
Lesson 6				
Lesson 7				
Lesson 8				

Spring 1	Lesson Objective	Main Task	Resources	Vocabulary
Lesson 1	<u>LO: To know the different types of teeth and their functions.</u>	Identify each type of human tooth and explain their functions	Diagram of human teeth, model of human teeth, the human skull that's in the science cupboard :-/	Animals including humans Mouth, Tongue, Teeth, Oesophagus, Stomach, Small Intestine, Large Intestine, Herbivore, Carnivore, Canine, Incisor, Molar
Lesson 2	<u>LO: To conduct an experiment to understand how teeth are affected by different liquids.</u>	Place a piece of egg shell in water (control), vinegar, coke zero and orange juice. Make prediction as to which will decay the most.		
Lesson 3	<u>LO: To conduct an experiment to understand how teeth are affected by different liquids.</u>	Write up experiment, draw conclusions		
Lesson 4	<u>L.O. To describe how different parts of the digestive system work</u>	Banana sandwich experiment. Push a mashed up banana through the tights, note that stuff leaks through the tights like how the gut absorbs nutrients	Tights, bread, banana, vinegar, green food colouring	
Lesson 5	<u>L.O. To describe how different parts of the digestive system work</u>	Write up experiment, draw conclusions		
Lesson 6				
Lesson 7				
Lesson 8				

Spring 2	Lesson Objective	Main Task	Resources	Vocabulary
Lesson 1	LO – to make a simple circuit	Children experiment with various electrical components, to learn that a complete circuit must be formed for it to work.	Cells, crocodile clips, buzzers, fans, lights	Electricity Cells, Wires, Bulbs, Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators
Lesson 2				
Lesson 3				
Lesson 4				
Lesson 5				
Lesson 6				
Lesson 7				
Lesson 8				

Summer 1	Lesson Objective	Main Task	Resources	Vocabulary
Lesson 1				
Lesson 2				
Lesson 3				
Lesson 4				
Lesson 5				
Lesson 6				
Lesson 7				
Lesson 8				

Summer 2	Lesson Objective	Main Task	Resources	Vocabulary
Lesson 1				
Lesson 2				
Lesson 3				
Lesson 4				
Lesson 5				

Lesson 6				
Lesson 7				
Lesson 8				