Subject: Science

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Phase 1

Year 1

Term 1 **Exploring the natural and human constructed world**	**Term 2** **Seasonal Changes**	**Term 3** **Recycling Materials**	**Term 4** **The senses**	**Term 5** **Where our food comes from**	**Term 6** **Life cycles**
K4 - I will be able to explore materials within the natural world and begin to communicate my awareness of change through my exploration K5 - I will be able to group objects/materials in terms of their properties and experiment to identify their suitability K6 - I will explore objects and materials, recognising distinctive feature, be able to sort them and begin to make predictions K7 - I will be able to record my findings associated with my exploration of different materials Hide and seek - hide objects and then go on a hunt to find them Decorate animal outlines and explore use of camouflage Make a minibeast habitat - make predictions about which materials will be successful Record findings Explore building materials - conduct experiment over which source is the most useful Explore different foundations to build the house on - record finding Experience different clothing/ compare materials	K3(ii) - begin to respond to choices K4 - I will be able to explore changes within the natural world and begin to communicate my awareness of change through my exploration. K5 - I will be able to group objects/ materials based on the seasons. K6 - I will explore objects and materials, recognising distinctive features of a season. K7 - I will be able to record my findings associated with my exploration of different materials related to changes in the seasons. Compare images of summer time to Autumn. How are they different? Children dress up in different clothing from different seasons. Children sort images of clothing worn in different seasons. E.g. Summer: bathing suit or woolly hat. Children explore the outside learning area to collect seasonal items e.g. leaves, pine cones, conkers, etc and explore back in	K4 - I will show curiosity and explore recyclable materials and objects K5 - I will begin to answer simple questions about recyclable materials and objects K6 - I will carry out simple finding tasks and begin to identify materials that are recyclable K7 - I will carry out simple finding tasks and begin to ask questions about why we recycle Collect recyclable items for sorting- plastic/paper/metal from the large bins (make sure it is clean) Sort recyclable/non recyclable items. Have 3 sorting bins in a role play corner with recyclable objects available- children to organise into groups. Groups to be given a bag of assorted recyclable containers/ wrappers and they are to label individual items as plastic/metal/paper. Dress up as a recycling person and use a metal detector/magnet to search for metal items. Recycling fishing	K3(ii) - Responds to a choice of 2 materials by touching or eye pointing to one or the other K4 - Knows what to do with some everyday objects. K5 - Begins to initiate interactions with materials. K6 - Recognises some difference in properties and observes by indicating something about an object when asked about it. K7 - Begins to name some properties of materials using everyday words. Hear Talk about parts of the body used to hear with. Children join in with sound bingo by listening to familiar sounds e.g. animal sounds, instruments, etc. Sight Talk about parts of the body used to see with. Children put on a blindfold and touch items- is it difficult to know what it is without seeing? Look at objects through different coloured filters to express likes and dislikes Children wear a blindfold and	K3ii- I can explore plants and animals K4- I can show an interest in where food comes from K5- I can identify different animals and food/vegetables K6- I can identify where food comes from K7- I can identify different sources of food Visit Mary's Garden to look at vegetables Each class to plant a vegetable in the new planting boxes (awaiting arrival) and take responsibility for their vegetable Dairy week - look at the process of milk/cheese (come outside) / milk the cow On the Farm - what do the animals eat /matching food to the animal - eg. bacon is pig Under the sea - what do fish eat / Go fishing / taste fish - tuna, crab sticks, mackerel Finally visit the coop (or watch powerpoint for those who cannot access shops) to look at the final products being sold / Meet with Andi (canteen) to talk about how the food comes in, what happens	K3ii- I can explore materials, from the environment, in increasingly complex ways I can observe the results of my own actions with interest, when experiencing natural materials from the local environment K4- I can communicate my awareness of changes in light, sound or movement. K5- I can respond to questions relating to scientific enquiries K6- I can recognise distinctive features of objects for example, the features of living things in my environment, and know where they belong K7- I can research life cycles and record my findings Look at the life cycle of frogs- set up a sensory tray using frog models and use a sensory tray to explore Children create their own life cycle diagrams or a class diagram. Visit Mary's garden or the pond (in wooded area) to look for frog spawn, tadpoles or frogs. Take photos and compare different

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Explore building materials - read 3 little pigs Collect leaves - link to seasons - Leaf printing, collect stones Mini beast hunt - what can be found in our local environment Make a collection of items found outside, sort accordingly Keep minibeasts in the classroom - observe habitats and changes to insects Play minibeast game on the whiteboard - use touchscreen to drag	the classroom. Children to create collages using seasonal materials from outside the classroom e.g. Autumn leaves Go on a walk into the community encouraging children to observe changes within the local environment. Use fridge/ microwave to explore changing properties - make ice for a snow scene	Recycling song Use the recyclable items to create: Turning plastic bottles/containers into something useful - e.g. bird feeder, butterfly feeders. Make a recycled instrument- banjo, drum, etc. Rainsticks - different beans and pulses Make a recycled cowboy vest Sensory painting with plastics - bubble wrap, bottles Use old paper to make new paper	describe how it feels to not be able to see. Children work in pairs to complete an obstacle course based on their partners instructions. Children to play 'Kim's memory game' Taste Talk about parts of the body used to taste. Children are given a variety of food items to taste including- salty, sweet, bitter, sour and express their likes/dislikes. Offer students different textured foods to taste- tomatoes- hard (raw), smooth (passata) and lumpy (chopped) Touch/feel Children are given different objects to feel, they are to describe through the use of symbols. Ask children to touch materials that are dry/wet or hot/cold with their hands or feet (e.g. jelly/ sand, porridge/ ice) Smell Blindfold children and encourage them to smell different foods- can they guess what it is? Make some smelly potions using different spices and ingredients. Add spices to paint or doughs. Make and use scented edible paint	next etc. sort images of/ real food into poultry/fruit/vegetable etc	stages of life cycle. Make edible sensory frogs spawn Look at the life cycle of a plant. How does a plant begin? - link to dinosaurs and what they eat - explore herbivore and carnivore Children grow a bean from a seed using a clear bag. Look at weekly and make observations on how they have changed. Children make a greenhouse to surround their bean and discuss what is important to look after a plant. pupils to make their own salt dough - explore changing materials - imprint with dinosaurs to make their own fossils pupils to explore hot and cold/ and melting ice to retain dinosaur- making their own scientific enquiry and answering their own questions

Phase 1					
Year 2					
Term 1 **Growing Humans**	**Term 2** **Taking care of small animals / pets**	**Term 3** **Animal habitats within the local environment**	**Term 4** **Food, drink and exercise**	**Term 5** **What keeps things alive?**	**Term 6** **Everyday materials**
K3 - I can respond to options and choices through my form of communication K4 - I can show an understanding of my own body	K3(ii) - begin to respond to choices K4 - I will be able to explore images of animals and begin to identify them	K4 - I will be able to explore materials within the natural world and begin to communicate my awareness of change through my exploration	K3(ii) - Responds to a choice of 2 materials by touching or eye pointing to one or the other K4 - Knows what to do with some everyday objects.	K3ii- I can actively explore plants and animals K4- I can explore objects and environments related to animals and their needs.	K4 - I will show curiosity and explore recyclable materials and objects K5 - I will begin to answer simple questions about recyclable

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and be able to identify key parts through modelling/mirroring and prompts. K5 - I can identify images of myself as a baby/ younger child and begin to identify different genders K6 - I can recognise myself in Baby pictures and identify the changes that have occurred K7 - I can identify what a baby needs and how to take care of my own body Show responses to different teaching areas and link cues to these to develop an anticipation response Exploring tactile resources which relate to periods of their childhood - baby rattles, sensory development toy Sort male/ female pictures and begin discussion that females have babies (where appropriate) Friends in my class - who can I name? Sort into boys and girls Use mirrors to look at selves to understand more about who they are - self portraits. sort photographs of pupils as a baby and now - can they identify their peers - what are the physical differences? role play with dolls - how do we care for them - pupils to bathe/dress/feed baby draw round themselves/ in pairs) and pupils to label their bodies with key body parts roll 2 dice (body parts and actions) and pupils to complete actions demonstrating awareness of their own bodies. Label their bodies	K5 - I will be able to group objects/ materials based on type of animal K6 - I will explore objects and materials, recognising distinctive features of animals I will be able to begin to explore what animals need K7 - I will be able to record my findings associated with my exploration of different materials related to animal care K7 -I will be able to research what different animals eat Class choice of pet - what would they pick - read “Dear zoo” animal characteristics - which animal do they like/ dislike? Who has a pet? Class / department questionnaire? How do we care for pets Sensory tray exploring animals in cereal (different textures - opportunity to make choices) bring in a pet from home !!(ha ha) role play “vets” how do we care for animals” Take animals for “walks” (Use outside area) looking after pets Kelli has a Tortoise she can bring in or a rabbit. Brushing different kinds of fur. Exploring how they feel. Sensory trays with different materials connected to different animals. (straw/rabbit, sawdust/hamster) Exploring what different animals eat and dietary needs. how to look after your pet	K5 - I will be able to group objects/materials in terms of their properties and experiment to identify their suitability K6 - I will explore objects and materials, recognising distinctive feature, be able to sort them and begin to make predictions K7 - I will be able to record my findings associated with my exploration of different materials Sorting animal habitats (background mats with toy animals/symbols) Explore the different animals you may find in the local environment - discuss where they live - recreate a bird's nest or some other animal habitat. Making bug hotels- finding the resources in the forest area and building bug hotels. Sorting - what animals live in the sea or on land - hot or cold climate Making bird feeders Make a birdhouse Focus on art based/sensory activities for local animals weekly such as hedgehogs, squirrels, bunnies, frogs, mice Leaf prints of woodland animals Explore and categorise different animal food - hay, seeds, cheese Explore safari themed prints Guess the noise (role play activity) - elephant, chicken, lion etc Explore animal diets for small animals vs big animals (possibly extend into those that eat meat and those that eat vegetables for students of that level)	K5 - Begins to initiate interactions with materials. K6 - Recognises some difference in properties and observes by indicating something about an object when asked about it. K7 - Begins to name some properties of materials using everyday words. https://www.nhs.uk/live-well/exercise/couch-to-5k-week-by-week/ Couch to 5k Healthy eating, sorting food into healthy and unhealthy. Balanced diet eatwell plate. Exploring different food groups. Likes and dislikes of foods and drinks. Tasting and choosing likes or dislikes. Fitness bingo - mark off one activity each day at school/home Make an exercise diary - counting how many jumps/skips etc Set up a sensory circuit for the children to complete daily. Feel heartbeat before and after and notice differences. Sensory exploration – guess that food! Use a gingerbread man/woman children can place edible chocolate buttons, chocolate chips, strawberry laces, fruit? in places where people would see them anatomically correct for themselves. could give the child a mirror and use dolly mix so they can recognise green eyes = green dolly mix etc.	K5- I can take part in activities focused on enquiries into environments K6-I can recognise distinctive features of living things K7- I can identify different sources of food that different animals eat. Read the story of Jaspers Beanstalk by Mick Inkpen - make your own beanstalk Talk about the things needed to grow a bean - time, equipment, heat. Jack and the beanstalk - plant “Magic beans” and link to what plants need to grow - design your own beanstalk and castle in the clouds Extension activity for ‘magic beans’ - can you make magic beans dance? What can you see happening? Cause and effect Sesame Street: Ellie Goulding Thank you Clouds song https://www.youtube.com/watch?v=ytQuBwWBjtc Explore the importance of water - make a rain cloud in a jar - Order caterpillars and watch them grow. Look at the stages of a caterpillar. What did they need ? Release the butterflies Briefly explore “The very hungry caterpillar” plant seeds and make posters to remind us what plants need to grow research and label parts of a plant - discuss what plants do for the environment Nature walk - children to work with a tick sheet and comment on plants and in their natural environment What keeps us alive - discuss vital organs and draw body maps, labelling these parts of the body watch “Get well soon” / Operation ouch and learn all about the lungs - use balloons to make models of the lungs to	materials and objects K6 - I will carry out simple finding tasks and begin to identify materials that are recyclable K7 - I will carry out simple finding tasks and begin to ask questions about why we recycle Collect recyclable items for sorting- plastic/paper/metal from the large bins (make sure it is clean) Sort recyclable/non recyclable items. Have 3 sorting bins in a role play corner with recyclable objects available- children to organise into groups. Groups to be given a bag of assorted recyclable containers/ wrappers and they are to label individual items as plastic/metal/paper. Dress up as a recycling person and use a metal detector/magnet to search for metal items. Recycling fishing Recycling song Use the recyclable items to create: Turning plastic bottles/containers into something useful - e.g. bird feeder, butterfly feeders. Make a recycled instrument- banjo, drum, etc. Rainsticks - different beans and pulses Make recyclable solar system Sensory painting with plastics - bubble wrap, bottles Use old paper to make new paper Build rockets - use water bottles, balloon pumps and balloons to explore movement Make planets - name them/ label them - papier mache balloons and paint them to produce whole class project Design space helmets - conduct research as to what they look like. Use dress up and role play to pretend to be spacemen Alka seltzer rockets - conduct experiments encouraging predictions and record keeping

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				understand how they work research what animals need to be alive - sort animals into herbivores and carnivores - learn that animals need different food sources, water, exercise visit pet shop (Covid rules permitting) children to locate animal food/ water bottles etc Grow carrot tops in a bottle Learning to look after animals - keep the animals clean and healthy recreate caterpillars in apples Make a tuff tray full of things birds like to eat/ make a bird table Keeping fit and healthy - magic beans exercise/movement game growing sunflowers in different areas of the classroom, to see which factors contribute to the strongest sunflower. (sunlight, water, soil…) Growing cress in egg shells Fat balls for birds.	Fizzy moon rocks activity- bath bombs. Gravity experiment- paint in a paper towel, dropping from a height to see the effect. Exploring temperature of different planets Make your own lava lamp

Phase 1					
Year 3					
Term 1 **Human body, body parts, exercise**	**Term 2** **What makes an elephant an elephant? And other animals**	**Term 3** **Materials: The best materials for the job / comparing**	**Term 4** **Plants**	**Term 5** **The senses**	**Term 6** **Plants: Identifying parts, growing and observing**
K3 - I can respond to options and choices through my form of communication K4 - I can show an understanding of my own body and be able to identify key parts through modelling/mirroring and prompts. K5 - I can identify images of myself as a baby/ younger child and begin to identify different genders K6 - I can recognise myself in	K3(ii) - begin to respond to choices K4 - I will be able to explore images of animals and begin to identify them K5 - I will be able to group objects/ materials based on type of animal K6 - I will explore objects and materials, recognising distinctive features of animals K6 - I will be able to begin to explore what animals need	K3(ii) - To responds to a choice of 2 materials by touching or eye pointing to one or the other K4 - To know what to do with some everyday objects. To find ways to solve problems K5 - To begin to initiate interactions with materials. To make predictions K6 - To recognise some difference in properties and observe by indicating something about an object when asked	K3(ii) - To responds to a choice of 2 materials by touching or eye pointing to one or the other K4 - To know what to do with some everyday objects. To find ways to solve problems K5 - To begin to initiate interactions with materials. To make predictions K6 - To recognise some difference in properties and observe by indicating something about an object when asked	K4 - I can communicate their awareness of changes in light and sound K5 - I can respond to simple scientific questions K6 - I can recognise the distinctive features of objects and know where they belong K6 - I can observe changes that occur and begin to make predictions K7 - I can demonstrate simple properties of light, sound and	K3(ii) - To responds to a choice of 2 materials by touching or eye pointing to one or the other K4 - To know what to do with some everyday objects. To find ways to solve problems K5 - To begin to initiate interactions with materials. To make predictions K6 - To recognise some difference in properties and observe by indicating something about an object when asked

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Baby pictures and identify the changes that have occurred K7 - I can identify what my body needs and how to take care of my own body K8 - Pupils recognise and name external parts of the body Drawing around the outline of our bodies, then labelling body parts (indoor learning on paper/outdoor with chalk) Identifying people in photographs, symbols to recognise genders/different features such as eye/hair colour etc Identifying body parts using a chatting sheet to request items for Mr Potato Head Matching activity - body part photos/symbols and their corresponding functions Identifying internal organs and their functions, eg heart, lungs intestines etc Learning body parts through songs, head shoulders knees and toes/skeleton song Work in small groups to roll labelled dice (body parts) can they find the corresponding part on their body / on photographs of bodies photographs of themselves as babies and as they are now - can they identify their peers/ match to them as older children now. To engage in a morning exercise routine, identifying why this is good for our bodies. Very Hungry Caterpillar - make a weekly food diary of what students eat each day	K7 - I will be able to record my findings associated with my exploration of different materials related to animal care K7 -I will be able to research what different animals eat What's in the bag? Students can touch and feel and talk about the animals they find in the bag. Students listen to animal noises and see if they can recognise the animal sounds. (pre record on talking pegs) Animal matching activities. Pupils to explore animal habitats, and sort correctly into different areas. Pupils to look at animal differences - what do they eat/ live/ fur/ fins etc Petting farm - visit a farm/ pet shop Research elephants and complete factfile recalling key facts Pupils create their own elephant self portraits. Milk jug Elmers - Sorting animals by given criteria - legs/ no legs/ amphibian/ reptile/ birds/ mammals/ Sort carnivores and herbivores Elma the elephant - link to art for bright colours. Students engage in senses activity where they need to feel, smell, touch and taste different materials relating to elephants (straw, apples, rough skin, water etc). How to care for animals - what do they eat/ where do they sleep/ Recreate a zoo/farm	about it. To describe an object using more than one property K7 - To begin to name some properties of materials using everyday words. To make a suggestion as to what to do. K8 - To communicate their observations of different materials. To make a contribution towards planning an activity. Sink or float - compare different objects/materials and identify which float and which sink - students to complete some simple recording of their findings. Design and make a boat - what materials will work best? Experiment with waterproof materials Describing materials - how does it feel/sound/taste/smell - explore textures / mystery boxes Sorting and classifying - explore different types of materials (plastic, metal, cardboard etc) and sort into categories Students can make an umbrella - what materials will they need? Test out different materials and discuss what works/doesn't work - powerpoint available on Twinkl "Ted's Umbrella Best Material for Special Task" Salt water density experiment. 4 tsps of salt to every 1L of water, add an egg to the salt water and an egg to a bowl of water. Compare the two. Look at how whales stay warm in the sea. Blubber experiment using vegetable shortening and cold water - you can look at different temperature water and different amounts of shortening. Explore materials that dissolve in water, salt/sugar/jelly cubes - how do we know they are still there once they have dissolved? Have a taste/smell test. Introduce learning linked to solids and liquids. Fruity lemon boats - explore cutting the fruit into different shapes - does that affect its	about it. To describe an object using more than one property K7 - To begin to name some properties of materials using everyday words. To make a suggestion as to what to do. K8 - To communicate their observations of different materials. To make a contribution towards planning an activity. How seeds & bulbs grow planting class plants and making posters on how to care for them What plants need to grow & stay healthy plant sunflowers and record their growth decorate their own plant pot for their own seed to be planted. visit a garden centre buy a plant for the classroom Basic structure of plants- research and label a basic plant and their parts Common wild & garden plants research plants found in the playground/ field and produce their own illustration of them. Deciduous & evergreen trees - research and sort accordingly Plant life cycle - identifying different stages of growing Read The Tiny Seed by Eric Carl Experiment with different areas of the classroom to grow plants (some in sunlight, some in the dark), record which plants grew the best and discuss why To explore different seasons and discuss what you need to have in order for plants to grow. (powerpoint) Explore pollination - looking at bees/butterflies and how they can play a role in flowers being able to grow/reproduce Learning resources and activity ideas from The Woodland Trust (could also support with Geography focus of exploring the school grounds) Create sensory plant bottles - play a match the picture to the smell game (lavender, mint, basil,	movement K8 - I can observe changes in light, sound and movement and show an understanding of how to control these devices. Senses science experiment: Taste - blindfolded food tasting. Smell - sensory smell bottles. Touch - blindfolded touch boxes, guess the feel. Sound - sound bingo. Sense of the week - each week focus on a different sense and how we use them - eyes -play eye spy, ears sound lotto, touch, feeling boxes and different materials. Taste - taste a variety of strong flavoured foods and sort according to like and dislike, Smell - work with different fragrances/ strong smells and attempt to identify. Grow a herb garden - in a planter - link to cooking. Children can touch, taste and smell a variety of different herbs. Children then plant them into a planter. Topiary - children to link this Art Sensory tray walk, exploring different textures with our feet, discussion of likes and dislikes. Senses experiments. Sight - one and two eyes, which eye can see better? Sound - making a model eardrum. Smell - visiting the sensory garden. Touch - head shoulders knees and toes.	about it. To describe an object using more than one property K7 - To begin to name some properties of materials using everyday words. To make a suggestion as to what to do. K8 - To communicate their observations of different materials. To make a contribution towards planning an activity. Go on a plant treasure hunt - look for plants that are different colours/smells/heights etc. Plant seeds in class and watch them grow Grow sunflowers - have an in phase competition. Trip to Mary's garden to plant seeds, fruit and vegetables and watch them grow. Exploring what plants need to grow. Bark rubbing Pressing flowers Make Confetti Planting herbs, creating our own herb garden and tending to the seeds, watering, sunlights and soil discussion of what plants need to grow. Appropriate visuals and levels of support to engage students. Pick real plants and label them correctly Photosynthesis Life cycle of a plant (seed - to flower)

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		floating/ sinking? egg carton boats - how do they float/ when would they sink - encourage pupils to predict what would happen to their boat.	rosemary etc).		

Phase 2						
Year 1						
	Term 1: Animals (including humans): Health Eating	**Term 2: Sound**	**Term 3: Rocks**	**Term 4: Properties and changes of materials: Classifying materials**	**Term 5: Plants**	**Term 6: Earth and Space**
Brook	Performance descriptors: K1 (i) Pupils encounter activities and experiences • They may be passive or resistant • They may show simple reflex responses [for example, startling at sudden noises or movements] • Any participation is fully prompted. K1 (ii) Pupils show emerging awareness of activities and experiences • They may have periods when they appear alert and ready to focus their attention on certain people, events, objects or parts of objects [for example, looking towards flashes of light or turning towards loud sounds] • They may give intermittent reactions [for example, sometimes withdrawing their hands from changes in temperature]. K2 (i) Pupils begin to respond consistently to familiar people, events and objects. • They react to new activities and experiences [for example, discarding objects with unfamiliar textures] • They begin to show interest in people, events and objects [for example, leaning forward to follow the scent of a crushed herb] • They accept and engage in coactive exploration [for example, feeling materials in hand-over-hand partnerships with a member of staff]. K2 (ii) Pupils begin to be proactive in their interactions • They communicate consistent preferences and affective responses [for example, showing a consistent dislike for certain flavours or textures] • They recognise familiar people, events and objects [for example, moving towards particular features of familiar environments] • They perform actions, often by trial and improvement, and they remember learned responses over short periods of time [for example, rejecting food items after recent experience of bitter flavours] • They cooperate with shared exploration and supported participation [for example, examining materials handed to them]. K3 (i) Pupils begin to communicate intentionally • They seek attention through eye contact, gesture or action • They request events or activities [for example, reaching out towards a sound making object] • They participate in shared activities with less support • They sustain concentration for short periods • They explore materials in increasingly complex ways [for example, pressing hard objects into soft textures] • They observe the results of their own actions with interest [for example, scrunching up paper and examining the product] • They remember learned responses over more extended periods [for example, reaching out to touch a live animal with caution and sensitivity]. K3 (ii) Pupils use emerging conventional communication • They greet known people and may initiate interactions and activities [for example, switching on a favourite piece of equipment in the light and sound room] 35 • They can remember learned responses over increasing periods of time and may anticipate known events [for example, balls falling and bouncing on the floor]					

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	• They may respond to options and choices with actions or gestures [for example, touching one substance rather than another] • They actively explore objects and events for more extended periods [for example, feeling the textures of different parts of a plant] • They apply potential solutions systematically to problems [for example, tipping a container in order to pour out its contents]. K4 Pupils explore objects and materials provided, changing some materials by physical means and observing the outcomes [for example, when mixing flour and water] • Pupils communicate their awareness of changes in light, sound or movement. • They imitate actions involving main body parts [for example, clapping or stamping]. They make sounds using their own bodies [for example, tapping, singing or vocalising], and imitate or copy sounds • They cause movement by a pushing or pulling action 'Explore' includes access through any sensory mode • Teachers should ensure that they are assessing intended, not accidental, actions					
Stream	Outcomes: To be able to show what it is like to feel ill and to be aware of differences between feeling well and unwell To participate in role play activities (health professionals) To know that medicines can be helpful and harmful To know that medicines are not for eating or playing with	K5 Pupils take part in activities focused on the anticipation of and enquiry into specific environments [for example, finding a hamster under straw, or a CD or video in a pile]. • They match objects and materials in terms of single features or properties [for example, temperature or colour] • They indicate the before and after of material changes • They try out a range of equipment in familiar and relevant situations [for example, initiating the activation of a range of light sources] • They respond to simple scientific questions [for example, 'Show me the flower' 'Is this wet/dry?'] 'Showing', 'demonstrating' 'trying out' 'responding' etc. may be done by any means appropriate to the pupil's preferred mode of communication and physical abilities • For some pupils this may mean directing an adult undertaking the task. Takes part in activities focused on the anticipation of an enquiry into specific environments. Matches objects and materials in terms of single features or properties. Tries out a range of equipment in familiar and relevant situations.	K5 Pupils take part in activities focused on the anticipation of and enquiry into specific environments [for example, finding a hamster under straw, or a CD or video in a pile]. • They match objects and materials in terms of single features or properties [for example, temperature or colour] • They indicate the before and after of material changes • They try out a range of equipment in familiar and relevant situations [for example, initiating the activation of a range of light sources] • They respond to simple scientific questions [for example, 'Show me the flower' 'Is this wet/dry?'] 'Showing', 'demonstrating' 'trying out' 'responding' etc. may be done by any means appropriate to the pupil's preferred mode of communication and physical abilities • For some pupils this may mean directing an adult undertaking the task. K6 Pupils recognise distinctive features of objects [for example, the features of living things in their environment, and know where they belong, for example, feathers on a bird, leaves on a tree] • They begin to make generalisations, connections	K5 Pupils take part in activities focused on the anticipation of and enquiry into specific environments [for example, finding a hamster under straw, or a CD or video in a pile]. • They match objects and materials in terms of single features or properties [for example, temperature or colour] • They indicate the before and after of material changes • They try out a range of equipment in familiar and relevant situations [for example, initiating the activation of a range of light sources] • They respond to simple scientific questions [for example, 'Show me the flower' 'Is this wet/dry?'] 'Showing', 'demonstrating' 'trying out' 'responding' etc. may be done by any means appropriate to the pupil's preferred mode of communication and physical abilities • For some pupils this may mean directing an adult undertaking the task. 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		K6 Pupils recognise distinctive features of objects [for example, the features of living things in their environment, and know where they belong, for example, feathers on a bird, leaves on a tree] • They begin to make generalisations, connections and predictions from regular experience [for example, expecting that ice cream will melt, or making wheeled objects move faster by pushing on a smooth surface or releasing them down a slope] • Pupils sort materials according to a single criterion when the contrast is obvious. • They closely observe the changes that occur [for example, when materials are heated, cooled or mixed] • Pupils identify some appliances that use electricity • They show that they know some sources of sound and light [for example, remembering their location]. K7 Pupils understand the scientific use of some simple vocabulary, such as before, after, bumpy, grow, eat, move and can communicate related ideas and observations using simple phrases [for example, which food to give which animal] • Pupils can demonstrate simple properties of light, sound and movement [for example, bright, noisy/quiet, fast/slow] • They make simple records of their findings [for example, by putting pictures of an activity in sequence] • They begin to make suggestions for planning and evaluating their work [for example, responding to the	and predictions from regular experience [for example, expecting that ice cream will melt, or making wheeled objects move faster by pushing on a smooth surface or releasing them down a slope] • Pupils sort materials according to a single criterion when the contrast is obvious. • They closely observe the changes that occur [for example, when materials are heated, cooled or mixed] • Pupils identify some appliances that use electricity • They show that they know some sources of sound and light [for example, remembering their location]. 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		question ‘Was that right or wrong?’]. ‘Showing’, ‘demonstrating’ 36 ‘trying out’ ‘responding’ etc. may be done by any means appropriate to the pupil’s preferred mode of communication and physical abilities • For some pupils this may mean directing an adult undertaking the task. K8 Pupils show that they have observed patterns or regular changes in features of objects, living things and events [for example, chrysalis/butterfly day/night] • They make some contribution to planning and evaluation and to record their findings • They identify a range of common materials and know about some of their properties • They sort materials using simple criteria and communicate their observations of materials in terms of these properties • Pupils make their own observations of changes of light, sound or movement that result from actions [for example, using a volume control or a dimmer switch] and can describe the changes when questioned directly.	K8 Pupils show that they have observed patterns or regular changes in features of objects, living things and events [for example, chrysalis/butterfly day/night] • They make some contribution to planning and evaluation and to record their findings • They identify a range of common materials and know about some of their properties • They sort materials using simple criteria and communicate their observations of materials in terms of these properties • Pupils make their own observations of changes of light, sound or movement that result from actions [for example, using a volume control or a dimmer switch] and can describe the changes when questioned directly.	K8 Pupils show that they have observed patterns or regular changes in features of objects, living things and events [for example, chrysalis/butterfly day/night] • They make some contribution to planning and evaluation and to record their findings • They identify a range of common materials and know about some of their properties • They sort materials using simple criteria and communicate their observations of materials in terms of these properties • Pupils make their own observations of changes of light, sound or movement that result from actions [for example, using a volume control or a dimmer switch] and can describe the changes when questioned directly.	K8 Pupils show that they have observed patterns or regular changes in features of objects, living things and events [for example, chrysalis/butterfly day/night] • They make some contribution to planning and evaluation and to record their findings • They identify a range of common materials and know about some of their properties • They sort materials using simple criteria and communicate their observations of materials in terms of these properties • Pupils make their own observations of changes of light, sound or movement that result from actions [for example, using a volume control or a dimmer switch] and can describe the changes when questioned directly.	K8 Pupils show that they have observed patterns or regular changes in features of objects, living things and events [for example, chrysalis/butterfly day/night] • They make some contribution to planning and evaluation and to record their findings • They identify a range of common materials and know about some of their properties • They sort materials using simple criteria and communicate their observations of materials in terms of these properties • Pupils make their own observations of changes of light, sound or movement that result from actions [for example, using a volume control or a dimmer switch] and can describe the changes when questioned directly.
River	Outcomes: To be able to show what it is like to feel ill and to be aware of differences between feeling well and unwell To participate in role play activities (health professionals) To know that medicines can be helpful and harmful To know that medicines are not for eating or playing with To be able to identify some common hazard symbols To begin to develop the skill of observing	Outcomes: To experience a range of sounds To explore making and changing sounds To be able to identify some common sounds To be able to recognise warning sounds To begin to develop the skill of predicting To select from simple vocabulary symbols to describe a sound To begin to use some relevant	Outcomes: To be able to group together different kinds of rocks on the basis of their appearance and simple physical properties To be able to describe in simple terms how fossils are formed when things that have lived are trapped within rock To be able to recognise that soils are made from rocks To be able to make simple observations about rocks To be able to identify some common hazard symbols	Outcomes: To be able to identify some common hazard symbols To begin to develop the skill of observing To undertake some simple research To participate in simple experiments To ask and answer simple questions when doing an activity.	Outcomes: To be able to identify and name a variety of common wild and garden plants, including deciduous and evergreen trees identify and describe the basic structure of a variety of common flowering plants, including trees.	Outcomes: To be able to explore rockets through experiments such as flying the highest/furthest/quickest To be able to create the brightest/biggest star/constellation To be able to name vocabulary: dark/light; fast/slow; moon, sun, star, sky, planet, space To be able to observe changes across the four seasons. To be able to observe weather associated with the seasons

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	To undertake some simple research To be able to feel and investigate different bones To know that there are bones inside their own body and begin to match parts of a skeleton to a body outline To know that the skeleton supports the body and protects parts of the body. To begin to make connections between skeletons and bones in everyday contexts To participate in simple experiments To ask and answer simple questions when doing an activity.	vocabulary To match some sounds to their sources To ask and answer simple questions when doing an activity.	To begin to develop the skill of observing To undertake some simple research To be able to feel and investigate different bones To participate in simple experiments To ask and answer simple questions when doing an activity.			and how day length changes/varies
Waterfall	Ensure you include at least one investigation into your planning. Outcomes: To the three key reasons why we need a skeleton (to support the body, to protect organs and to keep our bodies strong) To know that the skeleton is made up of different bones and be able to name some (using common names) To point to and match different parts of the skeleton when asked To begin to understand that human and animal skeletons have similarities and differences and investigate examples of each To ask a wider range of questions and take turns in discussion To understand and be able to show what it is like to feel ill To know that it is dangerous to eat/drink unknown substances To be aware of and able to carry out basic hygiene procedures To know that medicines can be	Ensure you include at least one investigation into your planning. Outcomes: To experience a variety of sounds and describe sounds using a range of vocabulary To explore and talk about making and changing sounds To identify common sounds To be able to recognise, name and give information about warning sounds To develop the skill of predicting To identify the source of sounds and know that there are many different sources of sounds To listen carefully and make and record observations To begin to understand and talk about differences in volume and pitch To ask a wider range of questions and take turns in discussion To be aware of and able to carry out basic hygiene procedures To recognise and identify	Outcomes: To be able to compare and group together different kinds of rocks on the basis of their appearance To be able to describe simple physical properties of rocks To be able to describe in simple terms how fossils are formed when things that have lived are trapped within rock To be able to recognise that soils are made from rocks and organic matter To ask a wider range of questions and take turns in discussion To be aware of and able to carry out basic hygiene procedures To know that medicines can be helpful and harmful and give examples of each To recognise and identify warning symbols meaning ‘danger’ To find out information from people and books	Outcomes: To ask a wider range of questions and take turns in discussion To be aware of and able to carry out basic hygiene procedures To recognise and identify warning symbols meaning ‘danger’ To find out information from people and books	Ensure you include at least one investigation into your planning. During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions. Outcomes: identify and name a variety of common wild and garden plants, including deciduous and evergreen trees identify and describe the basic structure of a variety of common flowering plants, including trees.	Outcomes: To be able to name vocabulary: dark/light; fast/slow; moon, sun, star, sky, planet, space To be able to observe changes across the four seasons. To be able to observe weather associated with the seasons and how day length changes/varies To be able to describe the four seasons and identify which months are associated with each.

Subject: Science

	helpful and harmful and give examples of each To recognise and identify warning symbols meaning 'danger' To observe and describe differences in the packaging of sweets and medicines To find out information from people and books	warning sounds meaning 'danger' To find out information from people and books				

Phase 2						
Year 2						
	Term 1: Electricity (Conductors and Insulators)	**Term 2: Living Things and Habitats / Human Life Cycle**	**Term 3: Plants**	**Term 4: Forces and Magnets**	**Term 5: Rocks**	**Term 6: Living Things and their Habitats - African Animals**
Brook and Stream	K1 (i) Pupils encounter activities and experiences • They may be passive or resistant • They may show simple reflex responses [for example, startling at sudden noises or movements] • Any participation is fully prompted. K1 (ii) Pupils show emerging awareness of activities and experiences • They may have periods when they appear alert and ready to focus their attention on certain people, events, objects or parts of objects [for example, looking towards flashes of light or turning towards loud sounds] • They may give intermittent reactions [for example, sometimes withdrawing their hands from changes in temperature]. K2 (i) Pupils begin to respond consistently to familiar people, events and objects. • They react to new activities and experiences [for example, discarding objects with unfamiliar textures] • They begin to show interest in people, events and objects [for example, leaning forward to follow the scent of a crushed herb] • They accept and engage in coactive exploration [for example, feeling materials in hand-over-hand partnerships with a member of staff]. K2 (ii) Pupils begin to be proactive in their interactions • They communicate consistent preferences and affective responses [for example, showing a consistent dislike for certain flavours or textures] • They recognise familiar people, events and objects [for example, moving towards particular features of familiar environments] • They perform actions, often by trial and improvement, and they remember learned responses over short periods of time [for example, rejecting food items after recent experience of bitter flavours] • They cooperate with shared exploration and supported participation [for example, examining materials handed to them]. K3 (i) Pupils begin to communicate intentionally • They seek attention through eye contact, gesture or action • They request events or activities [for example, reaching out towards a sound making object] • They participate in shared activities with less support • They sustain concentration for short periods • They explore materials in increasingly complex ways [for example, pressing hard objects into soft textures] • They observe the results of their own actions with interest [for example, scrunching up paper and examining the product] • They remember learned responses over more extended periods [for example, reaching out to touch a live animal with caution and sensitivity].					

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	K3 (ii) Pupils use emerging conventional communication • They greet known people and may initiate interactions and activities [for example, switching on a favourite piece of equipment in the light and sound room] 35 • They can remember learned responses over increasing periods of time and may anticipate known events [for example, balls falling and bouncing on the floor] • They may respond to options and choices with actions or gestures [for example, touching one substance rather than another] • They actively explore objects and events for more extended periods [for example, feeling the textures of different parts of a plant] • They apply potential solutions systematically to problems [for example, tipping a container in order to pour out its contents]. K4 Pupils explore objects and materials provided, changing some materials by physical means and observing the outcomes [for example, when mixing flour and water] • Pupils communicate their awareness of changes in light, sound or movement. • They imitate actions involving main body parts [for example, clapping or stamping]. They make sounds using their own bodies [for example, tapping, singing or vocalising], and imitate or copy sounds • They cause movement by pushing or pulling action 'Explore' includes access through any sensory mode • Teachers should ensure that they are assessing intended, not accidental, actions					
River	K5 Pupils take part in activities focused on the anticipation of and enquiry into specific environments [for example, finding a hamster under straw, or a CD or video in a pile]. • They match objects and materials in terms of single features or properties [for example, temperature or colour] • They indicate the before and after of material changes • They try out a range of equipment in familiar and relevant situations [for example, initiating the activation of a range of light sources] • They respond to simple scientific questions [for example, 'Show me the flower' 'Is this wet/dry?'] 'Showing', 'demonstrating' 'trying out' 'responding' etc. may be done by any means appropriate to the pupil's preferred mode of communication and physical abilities • For some pupils this may mean directing an adult undertaking the task. K6 Pupils recognise distinctive features of objects [for example, the features of living things in their environment, and know where they belong, for example, feathers on a bird, leaves on a tree] • They begin to make generalisations, connections and predictions from regular experience [for example, expecting that ice cream will melt, or making wheeled objects move faster by pushing on a smooth surface or releasing them down a slope] • Pupils sort materials according to a single criterion when the contrast is obvious. • They closely observe the changes that occur [for example, when materials are heated, cooled or mixed] • Pupils identify some appliances that use electricity • They show that they know some sources of sound and light [for example, remembering their location]. K7 Pupils understand the scientific use of some simple vocabulary, such as before, after, bumpy, grow, eat, move and can communicate related ideas and observations using simple phrases [for example, which food to give which animal] • Pupils can demonstrate simple properties of light, sound and movement [for example, bright, noisy/quiet, fast/slow] • They make simple records of their findings [for example, by putting pictures of an activity in sequence] • They begin to make suggestions for planning and evaluating their work [for example, responding to the question 'Was that right or wrong?']. 'Showing', 'demonstrating' 36 'trying out' 'responding' etc. may be done by any means appropriate to the pupil's preferred mode of communication and physical abilities • For some pupils this may mean directing an adult undertaking the task. K8 Pupils show that they have observed patterns or regular changes in features of objects, living things and events [for example, chrysalis/butterfly day/night] • They make some contribution to planning and evaluation and to record their findings • They identify a range of common materials and know about some of their properties • They sort materials using simple criteria and communicate their observations of materials in terms of these properties • Pupils make their own observations of changes of light, sound or movement that result from actions [for example, using a volume control or a dimmer switch] and can describe the changes when questioned directly.					
Waterfall	Ensure you include at least one investigation into your planning. Pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: asking simple questions and	Ensure you include at least one investigation into your planning. Pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: asking simple questions and	Ensure you include at least one investigation into your planning. Pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: asking simple questions and	Ensure you include at least one investigation into your planning. Pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: asking simple questions and	Ensure you include at least one investigation into your planning. Pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: asking simple questions and	Ensure you include at least one investigation into your planning. Pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: asking simple questions and

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	recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions. Outcomes: Level 1 Pupils use their knowledge related to energy, forces and space to describe some changes in light, sound or movement that result from actions, such as those caused by pushing and pulling objects or switching on an electrical circuit. They recognise that light and sound come from a variety of sources, such as the Sun or a musical instrument. They recognise evidence that has been used to answer a question, such as how a musical instrument makes a noise, and make links between science and everyday objects and experiences such as the Sun being a light source. ● 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	recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions. Outcomes: To be able to explore and compare the differences between things that are living, dead, and things that have never been alive To be able to identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other identify and name a variety of plants and animals in their habitats, including microhabitats describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.	recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions. Outcomes: identify and name a variety of common wild and garden plants, including deciduous and evergreen trees identify and describe the basic structure of a variety of common flowering plants, including trees. Identify and label parts of a plant Be able to identify key things a plant needs to grow. Make observations of changes that occur as a plant grows Identify similarities and differences between plants grown in the local area Pupils should use the local environment throughout the year to explore and answer questions about plants growing in their habitat. Where possible, they should observe the growth of flowers and vegetables that they have planted. They should become familiar with common names of flowers, examples of deciduous and evergreen trees, and plant structures (including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem). Pupils might work scientifically by: observing closely, perhaps using magnifying glasses, and comparing and contrasting familiar plants; describing how they were able to identify and group them, and drawing diagrams showing the parts of different plants including trees.	recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions. Outcomes: To be able to compare how things move on different surfaces. To notice that some forces need contact between two objects, but magnetic forces can act at a distance To observe how magnets attract or repel each other and attract some materials and not others To be able to compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials	recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions. Outcomes: To be able to name one use of a rock To be able to use everyday words to describe rocks e.g. shiny, rough To be able to identify where a rock has been used e.g. for building To be know that rocks belong to the group of natural materials To know that soil belongs to the group of natural materials To be able to sort rocks using given criteria e.g. sort rocks into rough and smooth	recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions. Outcomes: To be able to describe simply an environment further afield e.g. more than one feature plus plant/animal likely to be found there. To be able to name some animals found in specific environment e.g. when shown picture of desert, can say what lives there without any other visual clues To be able to group animals using a given criterion. (ie: 2 legs, 4 legs, wings) To make sensible suggestions about where to find different animals. To be able to tell you simply why plants and animals live in particular habitats e.g. fish needs water.

Subject: Science

	• recognise some common conductors and insulators, and associate metals with being good conductors		Pupils might keep records of how plants have changed over time, for example the leaves falling off trees and buds opening; and compare and contrast what they have found out about different plants.			

Phase 2						
Year 3						
	Term 1: Animals and Humans - Digestive System and Teeth	**Term 2: Electricity**	**Term 3: Water Cycle, Seas and Oceans**	**Term 4: Plants**	**Term 5: Light**	**Term 6: States of Matter**

Subject: Science

Brook Stream	K1 (i) Pupils encounter activities and experiences • They may be passive or resistant • They may show simple reflex responses [for example, startling at sudden noises or movements] • Any participation is fully prompted. K1 (ii) Pupils show emerging awareness of activities and experiences • They may have periods when they appear alert and ready to focus their attention on certain people, events, objects or parts of objects [for example, looking towards flashes of light or turning towards loud sounds] • They may give intermittent reactions [for example, sometimes withdrawing their hands from changes in temperature]. K2 (i) Pupils begin to respond consistently to familiar people, events and objects. • They react to new activities and experiences [for example, discarding objects with unfamiliar textures] • They begin to show interest in people, events and objects [for example, leaning forward to follow the scent of a crushed herb] • They accept and engage in coactive exploration [for example, feeling materials in hand-over-hand partnerships with a member of staff]. K2 (ii) Pupils begin to be proactive in their interactions • They communicate consistent preferences and affective responses [for example, showing a consistent dislike for certain flavours or textures] • They recognise familiar people, events and objects [for example, moving towards particular features of familiar environments] • They perform actions, often by trial and improvement, and they remember learned responses over short periods of time [for example, rejecting food items after recent experience of bitter flavours] • They cooperate with shared exploration and supported participation [for example, examining materials handed to them]. K3 (i) Pupils begin to communicate intentionally • They seek attention through eye contact, gesture or action • They request events or activities [for example, reaching out towards a sound making object] • They participate in shared activities with less support • They sustain concentration for short periods • They explore materials in increasingly complex ways [for example, pressing hard objects into soft textures] • They observe the results of their own actions with interest [for example, scrunching up paper and examining the product] • They remember learned responses over more extended periods [for example, reaching out to touch a live animal with caution and sensitivity]. K3 (ii) Pupils use emerging conventional communication • They greet known people and may initiate interactions and activities [for example, switching on a favourite piece of equipment in the light and sound room] 35 • They can remember learned responses over increasing periods of time and may anticipate known events [for example, balls falling and bouncing on the floor] • They may respond to options and choices with actions or gestures [for example, touching one substance rather than another] • They actively explore objects and events for more extended periods [for example, feeling the textures of different parts of a plant] • They apply potential solutions systematically to problems [for example, tipping a container in order to pour out its contents]. K4 Pupils explore objects and materials provided, changing some materials by physical means and observing the outcomes [for example, when mixing flour and water] • Pupils communicate their awareness of changes in light, sound or movement. • They imitate actions involving main body parts [for example, clapping or stamping]. They make sounds using their own bodies [for example, tapping, singing or vocalising], and imitate or copy sounds • They cause movement by pushing or pulling action ‘Explore’ includes access through any sensory mode • Teachers should ensure that they are assessing intended, not accidental, actions
River	K5 Pupils take part in activities focused on the anticipation of and enquiry into specific environments [for example, finding a hamster under straw, or a CD or video in a pile]. • They match objects and materials in terms of single features or properties [for example, temperature or colour] • They indicate the before and after of material changes • They try out a range of equipment in familiar and relevant situations [for example, initiating the activation of a range of light sources] • They respond to simple scientific questions [for example, ‘Show me the flower’ ’Is this wet/dry?’] ‘Showing’, ‘demonstrating’ ‘trying out’ ‘responding’ etc. may be done by any means appropriate to the pupil’s preferred mode of communication and physical abilities • For some pupils this may mean directing an adult undertaking the task. K6 Pupils recognise distinctive features of objects [for example, the features of living things in their environment, and know where they belong, for example, feathers on a bird, leaves on a tree]

Subject: Science

	• They begin to make generalisations, connections and predictions from regular experience [for example, expecting that ice cream will melt, or making wheeled objects move faster by pushing on a smooth surface or releasing them down a slope] • Pupils sort materials according to a single criterion when the contrast is obvious. • They closely observe the changes that occur [for example, when materials are heated, cooled or mixed] • Pupils identify some appliances that use electricity • They show that they know some sources of sound and light [for example, remembering their location]. K7 Pupils understand the scientific use of some simple vocabulary, such as before, after, bumpy, grow, eat, move and can communicate related ideas and observations using simple phrases [for example, which food to give which animal] • Pupils can demonstrate simple properties of light, sound and movement [for example, bright, noisy/quiet, fast/slow] • They make simple records of their findings [for example, by putting pictures of an activity in sequence] • They begin to make suggestions for planning and evaluating their work [for example, responding to the question 'Was that right or wrong?']. 'Showing', 'demonstrating' 36 'trying out' 'responding' etc. may be done by any means appropriate to the pupil's preferred mode of communication and physical abilities • For some pupils this may mean directing an adult undertaking the task. K8 Pupils show that they have observed patterns or regular changes in features of objects, living things and events [for example, chrysalis/butterfly day/night] • They make some contribution to planning and evaluation and to record their findings • They identify a range of common materials and know about some of their properties • They sort materials using simple criteria and communicate their observations of materials in terms of these properties • Pupils make their own observations of changes of light, sound or movement that result from actions [for example, using a volume control or a dimmer switch] and can describe the changes when questioned directly.
Waterfall	Ensure you include at least one investigation into your planning. During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions. Outcomes: Level 1 Pupils use their knowledge related to energy, forces and space to describe some changes in light, sound or movement that result from actions, such as those caused by pushing and pulling objects or switching on an electrical circuit. They recognise that light and sound come from a variety of sources, such as the Sun or a musical instrument. They recognise evidence that has been used to answer a question, such as how a musical instrument makes a noise, and make links between science and everyday objects and experiences such as the Sun being a light source.

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Phase 3					
Year 1					
Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Living things in the environment K7 - To be able to make suggestions about where to find plants and animals K8 - To be able to describe and identify the types of plants and animals they expect to find in a habitat K9/S1 - To be able to identify the physical features in a habitat S2 - To be able to describe what plants and animals need from their environments to live S3 - To be able to explain why an environment may be suitable for a given plant or animal **Cells & Microbes** K7 - Is able to use a magnifier, knows that magnifiers can make objects larger and more detailed and knows micro-organisms are very small. K8 - Know that animals and plants are made of cells and that microorganisms are living organisms and can be good or bad. K9/ S1 - Know that plant and animal cells are similar in many respects. S2 - Know that that disease can be caused by microorganisms and that the body can defend itself against dangerous ones. S3 - To know that immunisation/vaccination and medicines help to defend against dangerous microorganisms and can name some simple cell parts.	**Food, exercise and staying healthy** K-7 - To be able to distinguish between healthy and less healthy foods. To be able to recognise the need for a variety of foods and exercises. K-8 - To be able to plan a healthy meal. K9/ S1 -To be able to group foods simply e.g. fillers, fruit/vegetables, dairy, meat/fish, fatty etc. S2 - To be able to group foods according to carbohydrate, protein, fat, vitamins and minerals. S3 - I can explain which food groups could be bad for health and why.	**Rocks & Weathering** K7 - I know that rocks and soils are natural materials and can be very useful to us. K8 - I can sort rocks and soils by their appearance and texture. K9/S1 - I can use everyday words to describe rocks and identify where a rock has been used. S2 - I know that water passes through some rocks and not others and that it passes through soils at different rates. S3 - I understand that rocks were formed in different ways and can explain one way in which rocks formed.	**Plants** K7 - To explore, using all the senses, the parts of plants, for texture, smell, colour and shape. K8 - To know that plants have leaves, stems and flowers. K9/S1 - To know some of a plants' requirements to stay alive. S2 - To begin to compare plant and animal parts and how these relate to needs. To begin to interpret their results.	**Separating Materials** LA - To be able to separate solids using different sizes of sieves To be able to explain that some solids seem to "disappear" in water and some don't MA - To be able to explain how sieving works and what dissolving means. To be able to separate using filtering. HA - To know that a liquid with a solid dissolved in it is called a solution. To be able to explain how filtering works.	**Changing Materials** K7 - To be able to explore a variety of materials for bendiness, squashiness, twistability and stretchiness. K8 - To be able to explore a range of changes when materials are heated or cooled. To know some of the ways materials can change when mixed. K9/S1 - To be able to describe some of the changes caused by heating and cooling S1 - To be able to name some reversible and non-reversible changes and identify solids, liquids and gases.

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Phase 3					
Year 2					
Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Parts of the body & Senses Parts of the body: K7: I can name some parts of the body. K8: I can name and label some parts of the body. K9/ S1: I can name and know the functions of all main external body parts. S2: I can name and know the functions of all main external body parts. I can discuss what I think is inside the body. S3: I know that we have skeletons and muscles for support, protection and movement. **Senses** K7: I can use simple signs or phrases to describe a sensory experience. K8: I can use everyday worlds or signs to describe a sensory experience and begin to identify the main 5 senses. K9/ S1: I can name the 5 main senses and use everyday words or signs to describe sensory experiences. S2: I can link all 5 senses to their appropriate body part. S3: I can explain how the senses help us to survive.	**Light** K7: I can demonstrate simple properties of light and communicate ideas and observations using simple phrases. K8: I can identify a source of light, make observations of changes of light that result from action, and can describe changes. K9/S1: I can identify and name some common sources of light. I can say if my guess was right after carrying out an investigation. S2: I can identify some primary and secondary sources of light. I can identify some materials that light can and cannot pass through and some good and poor reflectors. S3: I can explain/ demonstrate that light travels from light sources. I can identify materials as transparent, translucent or opaque.	**Characteristics of Living Things & Lifecycles** **Living things** K7- I can categorise and sort examples of plants and animals. K8- I can categorise familiar things as either alive or not alive. K9/S1- I can name some things which are alive and name one feature common to living things (e.g move). S2 - I can name some things which were never alive and can name two features common to living things. S3- I know that some things were once alive and I can name three or more features common to living things. **Life cycles** K7- I can sort images of different stages in the human life cycle e.g baby, adult and begin to identify these. K8- I can sequence photos of different stages in the human life cycle and identify two stages. (baby, adult) K9/ S1- I can sequence photos of different age groups and identify three stages in the human life cycle (baby, child, adult). S2- I can describe how I have changed since I was born and sequence 5 stages i.e. birth, baby, child, adolescent, adult. S3- I can describe stages in the human life cycle and Can sequence 10 stages i.e. fertilisation, development, birth, baby, toddler, child, teenager, young adult, middle age and old	**Electricity** K7: I can connect components of pre-laid-out circuits to light bulbs with support; I can identify some electrical appliances; I can begin to use simple scientific vocabulary. K8: I know that electricity is dangerous e.g. will sign “danger” appropriately; name some electrical appliances; connect components of a pre-laid-out circuit to make bulb light, without support. K9: I know some of the dangers of electricity; I can name some appliances that produce heat, sound, light, movement; I can connect given components (not laid out) to light bulbs S1: I can 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 S1: recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit# S2: recognise some common conductors and insulators, and associate metals with being good conductors	**Acids and Alkalis** K7: I can describe acidic foods I have tasted as sour; I can record this in a way to communicate it K8: I can match colours of pH scale to the results of a litmus test; I can observe the changes in colour as a result of changes in pH using Universal Indicator K9: I can make predictions about what the resulting pH colour will be based on observations and knowledge about a substance S1: I know that not all acids are dangerous but some are; I can describe acidic foods as having a sour taste; I can name foods that contain acids; I know that some acids can harm you S2: I can describe the colour changes that occur when acids are added to plant dyes; I can recognises that using bicarbonate of soda is a method of testing for acids; I can recognises the safety symbols for corrosive and harmful S3: I can understands that using indicators like litmus is reliable method of testing for acids; I know that litmus is an indicator which will turn red in an acid;I can recognises that there are some substances which are not acids; I understands that litmus will turn red in an acid and blue in an alkali; I knows that we can treat a bee sting with sodium bicarbonate; I knows that we can treat acid indigestion with tablets which will get rid of some of the acid	**Earth and Beyond** K7: I can use words to describe space and planets such as: sphere, orbit, empty/vacuum; planets, stars K8: I can match pictures of the parts of the solar system to models and start to identify plants and stars from each other K9: I can identify planets from simple descriptions matched to images of them S1: I can draw simple pictures of the Earth, Moon and Sun which show spherical nature;I knows that the Sun doesn’t stay in one place all day; I knows that the Sun causes shadows; I knows that shadows change during the day S2: I can indicate which way the Sun appears to move; I can explain that the Sun is higher at mid-day; I can explain that the Earth spins; I can explain how shadows change during the day; I know that the axis is imaginary; I can explain why we have day and night; S3: Ican explain how shadows change during the day and link this to the apparent movement of the Sun; I know that the Earth is tilted on its axis; I knows it takes 24 hours for the Earth to spin once; I knows that the Earth takes 1 year to orbit the Sun; S4: I can explain which way a shadow will move and why; I know that it is day time on the part of the Earth that faces the sun; I know that the Moon also orbits Earth; I know the Earth

		age.		S4: I knows that litmus will not change colour in a neutral solution; I knows that the opposite to an acid is called an alkali; I understands that a substance that is neither acidic nor alkaline is called neutral; I know that tap water is more or less neutral	takes slightly over a year to orbit the Sun and how we get leap years; I know that the Moon orbits the Earth in 28 days; I can explain seasonal change

Phase 3					
Year 3					
Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Heart and Circulation K7: I can use simple vocabulary to describe what the heart does and words related to the heart and blood; I can participate in activities which get my heart rate up and know where to feel the increase in heart rate K8: I can predict if my heart rate will go up with different movements; I can use a stethoscope to listen to my heart beat K9: I can observe changes in my body which take place because of increased heart rate (faster breathing, red face, etc) S1: I can record different heart rates in different situations; I can describe how I feel after exercise; I know that the heart is a pump; I know that the heart can beat faster with exercise; I know that we use our lungs to breathe; S2: I can approximately point out the location of the lungs on own body; I knows that blood goes round the body in blood vessels; I can show two pulse points on the body; I can indicate simple circulation on a diagram S3: I know that arteries take	**Sound** K7: I can predict by making a simple statement e.g. when making shakers indicates that they are noisy.I can begin to differentiate between sounds e.g. can identify a loud or soft sound, can make a loud or soft sound; I can begin to locate sounds; I can predict by making a general statement e.g. when making shakers says that they need something inside K8: I can produces a variety of sounds with my own body or an instrument; I can begin to use some relevant vocabulary e.g. drum, xylophone, loud, soft; I can name sources of some environmental sounds; I can predict a loud noise (and cover ears or indicate to anticipate it) S1: I can identify how sounds are made; associating them with something vibrating; I can recognise that vibrations forms pounds travel through a medium to the ear; I can recognise that sounds get fainter as the distance from the sound source increases S2: I can explain simply why	**Forces and Motion** K7: I can demonstrate an understanding of push and pull b y doing the actions or choosing correct symbols or using correct words; I can make a suggestion about what to do when planning an investigation; K8: I can find an object in the classroom and demonstrate it that worlds by pushing or pulling; I can use simple vocabulary to describe an action (eg: push, pull, fast, slow, start, stop); I can make a simple suggestion on how to change a moving object in an investigation; K9: I can simply describe when it is useful to go faster, slower, change direction, etc. I can make suggestions about what to do to investigate and begin to recognise hazards S1: I can compare how things move on different surfaces; I can notice that some forces need contact between two objects, but magnetic forces can act at a distance; S2: I can observe how magnets attract or repel each other and attract some materials and not	**Variation and Food Chains** K7: I can use simple vocabulary to describe common features of animals (legs, wings, eyes, etc); I can use simple vocabulary to describe common features of plants (stem, leaf, flower); K8: I can groups animals and plant simply based on common features (animals or plants, animals on land or animals in water, etc) S1: I can identify some features of living things; I can identify 3 types of plants and 3 types of animals found locally; I can identify some obvious differences in the features of plants and animals; I can identify a plant or animal using a very simple identification S2: I can use the correct vocabulary for the features some of the time; I can identify some specimens from pictures; I can use a very simple key; I can identify the plant in a food chain; S3: I can use a simple key with minimal support; I can group animals into mammals, birds, fish; I can identify the producer in a food chain and understand	**Drugs and Medicines** K7: I can carry out a simple ‘finding’ task e.g. finds a dangerous substance from a group of household things using symbols; I can recognise a big red triangle (in outside environment) as meaning “danger”; I know that medicines/tablets are not for eating/playing with; I can observes one feature of the powder or medicine e.g. it’s like flour or looks like a sweet; I can find some information from a source with help; K8; I am aware of some basic hygiene procedures e.g. washes hands after toilet, uses tissue to wipe nose and disposes of it in bin but I may need reminding; I can observe a difference in the packaging of sweets compared to medicines/tablets; K9: I know that it is dangerous to eat/drink unknown substances; S1: I know that you should never take someone else’s medicine; I knows that medicine can make you better; I can recognises a warning symbol on packages as meaning “danger”; S1: I can describe the	**Evolution and Inheritance** K7: I can recognise that there are common features amongst animals of the same group/species; I can match these features amongst animals (ie: find the tails on all the dogs) K8: I can recognise patterns in living things and make associations between generations of animals; I can sort animals based on their features; K9: I can begin to simply describe how I know animals are the same type based on their features S1: I can describe features that a child has in common with their parent (human or animal); I can recognise that individuals grow up and that they come from other adult individuals S2: I recognise that there are common features amongst related animals (ie: fish have fins and gills) S3: I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

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blood away from the heart and veins to the heart; I know that blood carries food and oxygen to all parts of the body and picks up waste; I can explain simple circulation linked to the heart; I can show you the correct position of the heart on a diagram; I can describe other changes to the body during exercise. S4: I know that pulse rate increases during exercise; I knows that pulse rate returns to normal after exercise and this is a measure of fitness; I knows that the lungs transfer oxygen to the bloodstream; I can count my own pulse with help	sound needs a medium to travel; I can recognise common sounds from my day;	others; I can compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet; I can identify some magnetic materials; S3: I can describe why objects fall as a result of gravity; I can identify the effects of air resistance, water resistance and friction between moving surfaces S4: I can recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect	what the word means; I can use a simple branching key to name plants and animals; I can construct a food chain with 3 stages S4: I can identify predator and prey correctly; I can construct a food chain with 4 stages; I can construct a simple branching key; I can identify a “bad” key question; I can explain a food web in my own words	importance for humans of exercise; I can describe the types of foods I should eat to stay healthy S2: I can describe simply why certain things are good for hygiene (brushing teeth, brushing hair, washing body) S3: I can identify the basic external parts of my body and describe their function S4: I can describe simply the impact of diet, exercise, drugs and lifestyle on how my body functions	

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Phase 4 - Year 1					
Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Light	The Earth's Structure and Water as a Resource	Genetics	Solids, liquids and gases	Human Systems	Living Things and Their Life Cycles
K4 - explores objects and materials provided - communicates awareness of changes in light **K5** - Takes part in activities focused on the anticipation of an enquiry into specific environments - Matches objects and materials in terms of single features of properties - Tries out a range of equipment in familiar and relevant situations **K6** - Recognises distinctive features of objects - Begins to make generalisations, connections, and predictions from regular experience - Shows they know some sources of light **K7** - Understands the scientific uses of some simple vocabulary - Communicates related ideas and observations using simple phrases - Demonstrates simple properties of light - Makes simple records of their findings - Begins to make suggestions for planning and evaluating their work **K8** - Shows they have observed patterns or regular changes in features of objects Makes their own observations of changes of light that result from actions and can describe the changes when questioned directly	**K5** - Matches objects and materials in terms of single features of properties **K6** - Begins to make generalisations, connections, and predictions from regular experience **K7** - understands the scientific use of some simple vocabulary - communicates related ideas and observations using simple phrases **K9** - observe changes across the four seasons - observe and describe weather associated with the seasons and how day length varies **S1** - name the four seasons and understands that they have differences - begin to describe the different seasons - observes changes across the four seasons and identifies what time of year they fall - observes and describes weather associated with the seasons and how day length varies - could work scientifically by making tables and charts about the weather **S3** - compare and group together different kinds of rocks on the basis of their appearance and simple physical properties - describe in simple terms how fossils are formed when things that have lived are trapped within rock - recognises that soils are made	**K5** - Matches pictures to relevant models of animals and recognise those animals in real life, on video clips or from any sound they make - identifies themselves and the main features of faces and the body - notices features and characteristics of plants and animals **K6** - starts to use the vocabulary of living things - makes associations between plants, animals and where they live - describes the growth, development and ageing of plants/animals **K7** - identifies themselves in their environment **K8** - Explores and observes similarities, differences, patterns or regular changes in features of objects, or events. **K9** - Identify mammals / not mammals from an increasing range of options. **S1** - Describes and compares the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). **S2** - notices that animals, including humans, have offspring which grow into adults **S5** - describes the changes as	**K4** - explores objects and materials provided - changes some materials by physical means and observes the outcomes - communicates awareness of changes **S5** - Explains that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. **S4** - Compares and groups materials together, according to whether they are solids, liquids or gases. - Observes that some materials change state when they are heated or cooled, and measures or researches the temperature at which this happens in degrees Celsius © - Could work scientifically by: grouping and classifying a variety of different materials; exploring the effect of temperature on substances such as chocolate, butter, cream etc - Identifies the part played by evaporation and condensation in the water cycle and associates the rate of evaporation with temperature	**K7** - Knows that animals have skin, blood, bones & reproduce **S3** - Identifies 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. Identifies that humans and some other animals have skeletons and muscles for support, protection and movement. - Explores ideas about what would happen if humans did not have skeletons. - Could work scientifically by: identifying and grouping animals with and without skeletons and observing and comparing their movement. **S4** - describes the simple functions of the basic parts of the digestive system in humans - identifies the different types of teeth in humans and their simple functions **S6** - Identifies and names the main parts of the human circulatory system, and describes the functions of the heart, blood vessels, blood - recognises the impact of diet, exercise, drugs and lifestyle on the way their bodies function - describes the ways in which nutrients and water are transported within animals, including humans - could work scientifically by investigating how heartbeat	**K5** - categorises groups and varieties of animals **K7** - Knows that animals have skin, blood, bones & reproduce - name the infant type of animals - describes the attributes and characteristics of animals - names the infant type of animals - consistently categorises and sorts examples of plants and animals **K8** - categorises familiar things as being either alive/not alive - Sequences the life cycles of animals **K9** - Name and understand the terms fish, amphibian, reptile, bird and mammal. **S1** - identifies and names a variety of common animals including fish, amphibians, reptiles, birds and mammals **S2** - notices that animals, including humans, have offspring which grow into adults - finds out about and describes the basic needs of animals, including humans, for survival (water, food and air) - explores and compares the differences between things that are living, dead and things that have never been alive - could work scientifically by sorting and classifying things according to whether they are living, dead or were never alive, and recording their findings using

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- Makes some contribution to planning and evaluation and to recording their findings **S3** - Recognises that they need light in order to see things and that dark is the absence of light - Notices that light is reflected from surfaces - Recognises that light from the sun can be dangerous and that there are ways to protect their eyes - Recognises that shadows are formed when the light from a light source is blocked by a solid object - Could work scientifically by: finding patterns in the way that the size of shadows change **S6** - Recognise that light appears to travel in straight lines - Uses the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye - Explains that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes - Uses the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them - Could work scientifically by: designing and making a periscope and using the idea that light appears to travel in straight lines to explain how it works	from rocks and organic matter **S4** - Identifies the part played by evaporation and condensation in the water cycle	humans develop to old age - Draws a timeline to indicate stages in the growth and development of humans - learns about the changs experience in puberty - could work scientifically by researching the gestation periods of other animals and comparing them with humans - could work scientifically by finding out and recording the length and mass of a baby as it grows **S6** - describes how living things are classified into broad groups according to their observable characteristics and based on similarities and differences, including microorganisms, plants and animals - gives reasons for classifying plants and animals based on specific characteristics - could work scientifically by using classification systems and keys to identify some animals and plants in the immediate environment - recognises that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago - recognises that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents - identifies how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution		varies with exercise	charts, describing how they decided where to place things **S5** - describes the differences in the life cycles of a mammal, an amphibian, an insect and a bird - describes the life process of reproduction in some plants and animals - could work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences - could work scientifically by researching the gestation periods of other animals and comparing them with humans **S6** - recognises that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents

Phase 4 - Year 2					
Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Separating Materials	The Senses	Forces and Magnets	Sound	Staying Healthy	Recycling Materials

Subject: Science

K6 - Explores objects and materials provided in an appropriate way. - Begins to make generalisations, connections and predictions from regular experience. - Consistently sorts materials according to a given criterion when the contrast is obvious. **S5** - Demonstrates that dissolving, mixing and changes of state are reversible changes. - Explains that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.	**K4** - explores objects and materials provided **K5** - takes part in activities focused on the anticipation of an enquiry into specific environments **K9** - Name some parts of the human body and label them in a picture. - Name the 5 basic senses. **S1** - Identifies, names, draws and labels the basic parts of the human body and says which part of the body is associated with each sense.	**K5** - tries out a range of equipment in familiar and relevant situations - responds to simple scientific questions - takes part in activities focused on the anticipation of an enquiry into specific environments **S2** - describes magnets as having 2 poles - predicts whether 2 magnets will attract or repel each other, depending on which poles are facing each other - Finds out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. **S3** - compare how things move on different surfaces - notice that forces need contact between 2 objects, but magnetic forces can act at a distance - observe how magnets attract or repel each other and attract some materials and not others - compares and groups together a variety of everyday materials on the basis of whether they are attracted to magnets and identifies some magnetic materials	**K4** - explores objects and materials provided - communicates awareness of changes in sound - makes sounds using their own bodies, or imitates or copies sounds **K5** - Takes part in activities focused on the anticipation of an enquiry into specific environments - Matches objects and materials in terms of single features of properties - Tries out a range of equipment in familiar and relevant situations **K6** - Shows they know some sources of sound **K7** - Understands the scientific uses of some simple vocabulary Communicates related ideas and observations using simple phrases - Demonstrates simple properties of sound - Makes simple records of their findings - Begins to make suggestions for planning and evaluating their work **K8** - Shows they have observed patterns or regular changes in features of objects - Makes their own observations of changes of sound that result from actions and can describe the changes when questioned directly - Makes some contribution to planning and evaluation and to recording their findings **S4** - Identifies how sounds are made, associating some of them with something vibrating. - Recognises that vibrations from sounds travel through a medium to the ear. - Finds patterns between the pitch of a sound and features of	**K4** - explores objects and materials provided **K5** - takes part in activities focused on the anticipation of an enquiry into specific environments **K8** - Knows that it is good to eat a range of foods that help growth, repair and give them energy **K9** - Name some parts of the human body and label them in a picture. **S2** - finds out about and describes the basic needs of animals, including humans, for survival (water, food and air) - describes the need for humans to exercise, eating the right amounts of different types of food	**K4** - changes some materials by physical means and observes the outcomes **K7** - describes how they can help their environment

Subject: Science

			the object that produced it. - Finds patterns between the volume of a sound and the strength of the vibrations that produced it. - Recognises that sounds get fainter as the distance from the sound source increases - Could work scientifically by: finding patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses		

Subject: Science

Phase 4 - Year 3					
Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Plants	Properties of Materials	Movement	Chemical reactions	Electricity	Living Things and Their Habitats
K5 - recognises the main features of a plant **K7** - identifies the anatomy of plants **K8** - Sequences the life cycles of plants K8 - Starts to think about how plants adapt to their environment - Starts to think about how plants interact with each other in the environment **K9** - Identify plants / not plants from an increasing range of options. - Identify trees from a range of other plants. Identify trees/shrubs/flowers. - Label the basic structure of a plant: roots, stem & leaves **S1** - identifies and names a variety of common wild and garden plants, including deciduous and evergreen trees - identifies and describes the basic structure of a variety of common flowering plants, including trees **S2** - observes and describes how seeds and bulbs grow into plants - finds out and describes how plants need water, light and a suitable temperature to grow and stay healthy **S3** - Identifies and describes the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. - Explores the requirements of plants for life and growth (air,	**K5** - matches and groups objects and materials in terms of simple features or properties - matches objects and materials in terms of single features or properties **K6** - Recognises distinctive features of objects. **K7** - Actively joins in scientific investigations. - Understands the scientific use of some simple vocabulary - Observes simple properties. - sorts materials reliably with given criteria **K8** - Explores and observes similarities, differences, patterns or regular changes in features of objects, or events. - Identifies a range of common materials and knows about some of their properties. - Sorts materials using simple criteria. **K9** - Contribute to a discussion about the materials, their simple physical properties and how they can be changed. - Sort materials using a wider range of criteria, on the basis of their simple physical properties. **S1** - Distinguishes between an object and the material from which it is made. - Identifies and names a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. - Describes the simple physical properties of a variety of everyday materials.	**K4** - causes movement by pushing or pulling actions **K5** **-** anticipates and joins activities - engages in experimentation - tries out a range of equipment in familiar and relevant situations - responds to simple scientific questions **K7** - Actively joins in scientific investigations. - Understands the scientific use of some simple vocabulary - Makes simple records of their findings - Demonstrates simple properties of movement. - Makes simple records of their findings. - Begins to make suggestions for planning and evaluating their work. **K8** - Shows they have observed patterns or regular changes in features of objects. - Makes their own observations of changes of movement that result from actions, and can describe the changes when questioned directly. - Makes some contribution to planning and evaluation and to recording their findings. **S3** - compare how things move on different surfaces	**K4** - Closely observes changes that occur. - communicates awareness of changes **K5** - indicates the before and after of material changes - engages in experimentation - tries out a range of equipment in familiar and relevant situations - responds to simple scientific questions - tries out a range of equipment in familiar and relevant situations **K6** - Recognises distinctive features of objects. **K7** - Actively joins in scientific investigations. - Understands the scientific use of some simple vocabulary, - Begins to make suggestions for planning and evaluating their work. **K8** - Makes some contribution to planning and evaluation and to recording their findings in different ways. - Communicates their observations of materials in terms of their properties. - Describes changes when questioned directly. **S2** - Identifies and compares the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	**K6** - Recognises distinctive features of objects. - Begins to make generalisations, connections and predictions from regular experience. - Identify some appliances that use electricity. **K7** - Understands the scientific use of some simple vocabulary. - Communicates related ideas and observations using simple phrases. **S4** - Identifies common appliances that run on electricity. - Constructs a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. - Identifies 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. - Recognises that a switch opens and closes a circuit and associates this with whether or not a lamp lights in a simple series circuit - Recognises some common conductors and insulators, and associates metals with being good conductors. - Could work scientifically by: observing patterns, for example, that bulbs get brighter if more cells are added, that metals tend to be conductors of electricity, and that some materials can and some cannot be used to connect across a gap in a circuit. **S6** - Associates the brightness of a	**K5** - Matches pictures to relevant models of animals and recognise those animals in real life, on video clips or from any sound they make **K6** **-** starts to use the vocabulary of living things - makes associations between plants, animals and where they live - describes the growth, development and ageing of plants/animals **K7** - Understands the scientific use of some simple vocabulary. - Communicates related ideas and observations using simple phrases **K8** - Starts to think about how animals adapt to their environment - Starts to think about how animals interact with each other in the environment **K9** - Identify mammals / not mammals from an increasing range of options. **S1** - identifies and names a variety of common animals that are carnivores, herbivores and omnivores **S2** - describes the need for humans to exercise, eating the right amounts of different types of food - identifies that most living things live in habitats to which they ares united and describes t how different habitats provide the

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light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. - Investigates the way in which water is transported within plants. - Explores the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. - Could work scientifically by: comparing the effect of different factors on plant growth, for example, the amount of light, the amount of fertiliser etc	- Compares and groups together a variety of everyday materials on the basis of their simple physical properties. - Could work scientifically by: performing simple tests to explore questions, for example What is the best material for … **S2** - Identifies and compares the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. - Finds out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. **S3** - compare and group together different kinds of rocks on the basis of their appearance and simple physical properties **S4** - Compares and groups materials together, according to whether they are solids, liquids or gases. - Observes that some materials change state when they are heated or cooled, and measures or researches the temperature at which this happens in degrees Celsius - Could work scientifically by: grouping and classifying a variety of different materials; **S5** - Explains that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.			lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. - Compares and gives reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. - Uses recognised symbols when representing a simple circuit in a diagram. - Could work scientifically by: systematically identifying the effect of changing one component at a time in a circuit; designing and making a set of traffic lights, a burglar alarm or some other useful circuit.	basic needs of different kinds of animals and plants, and how they depend on each other - identifies and names a variety of plants and animals in their habitats, including the importance of microhabitats - describes how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identifies and and names different sources of food **S4** - constructs and interprets a variety of food chains, identifying producers, predators and prey - could work scientifically by comparing the teeth of carnivores and herbivores, and suggests reasons for the differences - Recognises that living things can be grouped in a variety of ways. - Explores and uses classification keys to help group, identify and name a variety of living things in their local and wider environment. - Recognises that environments can change and that this can sometimes pose dangers to living things. **S6** - identifies how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution