Science Curriculum

Year A - YEAR 1/2

	York		Discover		Step Back In Time	
	Homes Now and Then/Location of York		Kings and Queens/Maps to mark key locations		Ice Age/ Location (The Poles)	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Animals inc Humans (Y1)		Everyday Materials (Y1)		Seasonal change	Plants (Y1)
Skills Progression and Assessment						
	I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. I can identify and name a variety of common animals that are carnivores, herbivores and omnivores. I can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).	I can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense Name and talk about their members of immediate and extended family Describe what is needed to healthy and clean.	Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties.		Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.	I can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. I can identify and describe the basic structure of a variety of common flowering plants, including trees
Suggested tasks	Name a range of animals which includes animals from each of the vertebrate groups Describe the key features of these named animals Label key features on a picture/diagram Write descriptively about an animal Write a What am I? riddle about an animal Describe what a range of animals eat Make first-hand, close observations of animals from each of the groups. Compare two animals from the same or different groups. Classify animals using a range of features.	During PE lessons, follow instructions involving parts of the body Label parts of the body on pictures and diagrams **Create skeletons of animals/humans using sticks and label the body parts/senses** Explore objects using different senses Make first-hand close observations of parts of the body e.g. hands, eyes. Compare two people. Take measurements of parts of their body. **Draw around in chalk on playground.** Compare parts of their own body.	Classify objects made of one material in different ways e.g. a group of object made of metal. **Scavenger hunt – collect 5 items that are natural, metal…** Classify in different ways one type of object made from a range of materials e.g. a collection of spoons made of different materials. Classify materials based on their properties. **Collect materials outside and sort into sorting trays/hoops. Ask children to sort into given properties, leading on to them sorting with properties they decide and share with others.** Test the properties of objects e.g. absorbency of cloths, strength of party hats made of different papers, stiffness of paper plates, waterproofness of shelters. **Make boats – test which will float/sink, which travels the fastest when blown. Can they make improvements and retest?**		Collect information about the weather regularly throughout the year. **Use of weather apps to compare with data loggers – measure temperature, light.** Present this information in tables and charts to compare the weather across the seasons. Collect information, regularly throughout the year, of features that change with the seasons e.g. plants, animals, humans. Present this information in different ways to compare the seasons. **Create sticky strips to collect natural materials for each season. Save across the year and compare.**	Make close observations of leaves, seeds, flowers etc. Compare two leaves, seeds, flowers etc. Classify leaves, seeds, flowers etc. using a range of characteristics. Identify plants by matching them to named images. Make observations of how plants change over a period of time. **Identify different plants in school grounds and where they grow in school, these can be revisited in the year to see the change.** When further afield, spot plants that are the same as those in the local area studied regularly, describing the key features that helped them. **Plant scavenger hunt – can the children identify different plants from given**

	Identify animals by matching them to named images. Classify animals according to what they eat. **Food group hunt and sort – images of animals to sort into food groups, ropes to identify food chains.**	Look for patterns between people e.g. Do people with big hands have big feet? Classify people according to their features. Investigate human senses e.g. Which part of my body is good for feeling, which is not? **Sound map – sit quietly for a few minutes outside and identify different sounds and where they are.** Which food/flavours can I identify by taste? Which smells can I match?		Gather data about day length regularly throughout the year and present this to compare the seasons. **Create a sun dial using a rounder's stump and measure throughout the day.** **Seasonal fairy magic potions – visit different 'magical' locations in the school grounds, collect the magic from the trees/flowers whilst learning about the seasons. Attach natural objects to wands before creating a magic potion. Can repeat over the seasons.** **Observe different trees through the seasons.**	**photos? Use apps on iPads to identify different plants/trees** • **British trees app** • **PlantNet**
Vocabulary	Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves Names of animals experienced first-hand from each vertebrate group Parts of the body including those linked to PSHE teaching Senses – touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue		Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through	Weather (sunny, rainy, windy, snowy etc.) Seasons (winter, summer, spring, autumn) Sun, sunrise, sunset, day length	Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud Names of trees in the local area Names of garden and wild flowering plants in the local area
Links to learning and assessment points					
Outcomes: Scientific Knowledge	Can sort and group animals using similarities and differences Can use simple charts etc. to identify unknown animals Can create a drawing of an imaginary animal labelling its key features Can use secondary resources to find out what animals eat, including talking to experts	Can use first-hand close observations to make detailed drawings Can name body parts correctly when talking about measurements and comparisons e.g. "My arm is x straws long." "My arm is x straws long and my leg is y straws long. My leg is longer than my arm."	Can label a picture or diagram of an object made from different materials Can describe the properties of different materials Can sort objects and materials using a range of properties Can choose an appropriate method for testing an object for a particular property Can use their test evidence to answer the questions about properties e.g. "Which cloth is the most absorbent?"	. Can name the four seasons and identify when in the year they occur Can describe weather in different seasons over a year Can describe days as being longer (in time) in the summer and shorter in the winter Can describe other features that change through the year	Can name trees and other plants that they see regularly Can describe some of the key features of these trees and plants e.g. the shape of the leaves, the colour of the flower/blossom Can point out trees which lost their leaves and those that kept them the whole year Can point to and name the parts of a plant, recognising that they are not

	e.g. pet owners, zookeepers etc.	"We both have hands, but his are bigger than mine." "These people have brown eyes and these have blue." Can talk about their findings from investigations using appropriate vocabulary e.g. "My fingers are much better at feeling than my toes" "We found that the crisps all taste the same."			always the same e.g. leaves and stems may not be green
Previous	Name and describe people who are familiar to them. (Reception - Humans)		Use all their senses in hands-on exploration of natural materials. (Nursery - Materials, including changing materials) Explore collections of materials with similar and/or different properties. (Nursery - Materials, including changing materials) Talk about the differences between materials and changes they notice. (Nursery - Materials, including changing materials)	Explore the natural world around them. (Reception – Seasonal changes) Describe what they see, hear and feel whilst outside. (Reception – Seasonal changes) Understand the effect of changing seasons on the natural world around them. (Reception – Seasonal changes)	Explore the natural world around them. (Reception – Living things and their habitats) Recognise some environments that are different to the one in which they live. (Reception – Living things and their habitats)
Year B Focus	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. (Y2 - Living things and their habitats)		Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching		. Observe and describe how seeds and bulbs grow into mature plants. (Y2 - Plants) Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. (Y2 - Plants)
Next	Recognise that living things can be grouped in a variety of ways. (Y4) Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. (Y4) Recognise that environments can change and that this can sometimes pose dangers to living things		Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. (Y3 - Rocks) Notice that some forces need contact between two objects, but magnetic forces can act at a distance. (Y3 - Forces and magnets)	Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. (Y3 - Light)	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. (Y3 - Plants) Investigate the way in which water is transported within plants. (Y3 - Plants)

Year B YEAR 1/2

	York		Discover		Step Back In Time	
	Chocolate & Railways/Capital Cities and Seas		Castles & Dragons/Human Features (Castles/Moats)		Dinosaurs/Continents	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Animals inc Humans (Y2)	Uses of everyday materials	Living things and their habitats		Plants	
Skills Progression and Assessment						
	Notice that animals, including humans, have offspring which grow into adults. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	Explore and compare the differences between things that are living, dead, and things that have never been alive 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 micro-habitats 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		Observe and describe how seeds and bulbs grow into mature plants. (Y2 - Plants) Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. (Y2 - Plants)	
Suggested tasks	Ask people questions and use secondary sources to find out about the life cycles of some animals. Observe animals growing over a period of time e.g. chicks, caterpillars, a baby. **Minibeast hunt outside to identify different animals before looking at their life cycle.** Ask questions of a parent about how they look after their baby.	Classify materials. Make suggestions about alternative materials for a purpose that are both suitable and unsuitable Test the properties of materials for particular uses e.g. compare the stretchiness of fabrics to select the most appropriate for Elastigirl's costume, test materials for waterproofness to select the most	Explore the outside environment regularly to find objects that are living, dead and have never lived. **Sort in the forest school area, use hoops/sorting trays.** Classify objects found in the local environment. Observe animals and plants carefully, drawing and labelling diagrams. **Use iPads/PicCollage to take photos in outdoor area and label.** Create simple food chains for a familiar local habitat from first-hand observation and research. **Each child has a photos, connect food chains using rope.** **Discuss what may happen if we were to lose one piece of the food chain/** Create simple food chains from information given e.g. in picture books (Gruffalo etc.).		Make close observations of seeds and bulbs. Classify seeds and bulbs. Research and plan when and how to plant a range of seeds and bulbs. Look after the plants as they grow – weeding, thinning, watering etc. Make close observations and measurements of their plants growing from seeds and bulbs. Make comparisons between plants as they grow **Create sticky strips to collect petals/leaves from plants, discuss colours, compare what they have found on their strip.**	

	Ask pet owners questions about how they look after their pet. Explore the effect of exercise on their bodies. Classify food in a range of ways, including using the Eatwell Guide. Investigate washing hands, using glitter gel.	appropriate for a rain hat **Properties scavenger hunt – find items that are rough, smooth….**		
Vocabulary	Offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly), exercise, heartbeat, breathing, hygiene, germs, disease, food types (examples – meat, fish, vegetables, bread, rice, pasta)	Names of materials – wood, metal, plastic, glass, brick, rock, paper, cardboard Properties of materials – as for Year 1 plus opaque, transparent and translucent, reflective, non-reflective, flexible, rigid Shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching	Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed Names of local habitats e.g. pond, woodland etc. Names of micro-habitats e.g. under logs, in bushes etc.	Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud light, shade, sun, warm, cool, water, grow, healthy
Links to learning and assessment points				
Outcomes: Scientific Knowledge	Can describe, including using diagrams, the life cycle of some animals, including humans, and their growth to adults e.g. by creating a life cycle book for a younger child Can measure/observe how animals, including humans, grow. Show what they know about looking after a baby/animal by creating a parenting/pet owners' guide Explain how development and health might be affected by differing	Can sort materials using a range of properties Can explain using the key properties why a material is suitable or not suitable for a purpose Can begin to choose an appropriate method for testing a material for a particular property Can use their test evidence to select appropriate material for a purpose e.g. Which	Can sort into living, dead and never lived Can give key features that mean the animal or plant is suited to its micro-habitat Using a food chain can explain what animals eat Can explain in simple terms why an animal or plant is suited to a habitat e.g. the caterpillar cannot live under the soil like a worm as it needs fresh leaves to eat; the seaweed we found on the beach cannot live in our pond because it is not salty	Can describe how plants that they have grown from seeds and bulbs have developed over time Can identify plants that grew well in different conditions

	conditions and needs being met/not met	material is the best for a rain hat?		
Previous	See themselves as a valuable individual. Manage their own needs Know and talk about the different factors that support their overall health and wellbeing Further develop the skills they need to manage the school day successfully		Draw information from a simple map. Explore the natural world around them. Describe what they see, hear and feel whilst outside. Recognise some environments that are different to the one in which they live.	Explore the natural world around them. (Reception – Living things and their habitats) Recognise some environments that are different to the one in which they live. (Reception – Living things and their habitats)
Year A Focus	Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals, including humans) Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (Y1 - Animals, including humans)	Distinguish between an object and the material from which it is made. (Y1 – Everyday materials) Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. (Y1 - Everyday materials) Describe the simple physical properties of a variety of everyday materials. (Y1 - Everyday materials) Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Y1 - Everyday materials)	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Y1 - Plants) Identify and describe the basic structure of a variety of common flowering plants, including trees. (Y1 - Plants) Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals including humans) Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals including humans) Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Y1 – Animals, including humans) Observe changes across the four seasons. (Y1 - Seasonal changes)	I can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. I can identify and describe the basic structure of a variety of common flowering plants, including trees
Next	Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own	Compare and group together different kinds of rocks on the basis of their appearance and	Recognise that living things can be grouped in a variety of ways. (Y4 - Living things and their habitats)	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. (Y3 - Plants)

	food; they get nutrition from what they eat. (Y3 - Animals, including humans) Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. (Y5 - Living things and their habitats) Describe the life process of reproduction in some plants and animals. (Y5 - Living things and their habitats) Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. (Y6 - Animals, including humans)	simple physical properties. (Y3 - Rocks) Notice that some forces need contact between two objects, but magnetic forces can act at a distance. (Y3 - Forces and magnets)	Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. (Y4 - Living things and their habitats) Recognise that environments can change and that this can sometimes pose dangers to living things. (Y4 - Living things and their habitats) Construct and interpret a variety of food chains, identifying producers, predators and prey. (Y4 - Animals, including humans)	Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. (Y3 - Plants) Investigate the way in which water is transported within plants. (Y3 - Plants) Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. (Y3 - Plants)

Year A YEAR 3/4

	York		Discover		Step Back In Time	
	York : A Changing City		Japan and Stone Age		Egypt	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Light (Y3)	Forces and Magnets (Y3)	Rocks (Y3)	Plants (Y3)	Animals inc Humans (Y4)	
Skills Progression and Assessment						
	Recognise that they need light in order to see things, and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Recognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way that the size of shadows change.	Compare how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some materials and not others. 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. Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.	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. Recognise that soils are made from rocks and organic matter.	Identify and describe the functions of different parts of flowering plants: roots; stem/trunk; leaves; and flowers. Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Investigate the way in which water is transported within plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey	
Suggested tasks	Explore how different objects are more or less visible in different levels of lighting. Explore how objects with different surfaces, e.g. shiny vs matt, are more or less visible.	Carry out investigations to explore how objects move on different surfaces e.g. spinning tops/coins, rolling balls/cars, clockwork toys, soles of shoes etc	Observe rocks closely. Classify rocks in a range of ways, based on their appearance. Devise a test to investigate the hardness of a range of rocks.	Observe soils closely. Classify soils in a range of ways based on their appearance. Devise a test to investigate the water retention of soils.	Research the function of the parts of the digestive system. Create a model of the digestive system using household objects. Explore eating different types of food to identify which teeth are being used for cutting, tearing and grinding (chewing). Classify animals as herbivores, carnivores or omnivores according to the type of teeth they have in their skulls. Use food chains to identify producers, predators and prey within a habitat. Use secondary sources to identify animals in a habitat and find out what they eat.	

	Explore how shadows vary as the distance between a light source and an object or surface is changed. Explore shadows which are connected to and disconnected from the object e.g. shadows of clouds and children in the playground. Choose suitable materials to make shadow puppets. **Create artwork using shadows** **Shadows - Looking at positions changing the shadows and drawing around them in chalk** **Light and shadows - Observations overtime Measuring shadow length to create graphs** **Use mirrors to show children how they can reflect light onto different surfaces**	**Explore what materials are attracted to a magnet.** Classify materials according to whether they are magnetic. Explore the way that magnets behave in relation to each other. Use a marked magnet to find the unmarked poles on other types of magnets. Explore how magnets work at a distance e.g. through the table, in water, jumping paper clips up off the table. Devise an investigation to test the strength of magnets	Devise a test to investigate how much water different rocks absorb. Observe how rocks change over time e.g. gravestones or old building. Research using secondary sources how fossils are formed. . Research different types of seed dispersal. **Create paper helicopters and see how these travel from a height. Compare results based on weight of seed, height dropped.** Classify seeds in a range of ways, including by how they are dispersed. Create a new species of flowering plant	Observe how soil can be separated through sedimentation. **Create sediment jars – ask children to collect soil from home to compare soil in the local area.** **Create a Rock QR Trail in outdoor area looking at different characteristics** Research the work of Mary Anning Observe what happens to plants over time when the leaves or roots are removed. Observe the effect of putting cut white carnations or celery in coloured water. Investigate what happens to plants when they are put in different conditions e.g. in darkness, in the cold, deprived of air, different types of soil, different fertilisers, varying amount of space. Spot flowers, seeds, berries and fruits outside throughout the year. Observe flowers carefully to identify the pollen. Observe flowers being visited by pollinators e.g. bees and butterflies in the summer. Observe seeds being blown from the trees e.g. sycamore seeds.	
Vocabulary	Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect,	Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet,	Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil,	Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal)	Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, producer, predator, prey, food chain

	mirror, sunlight, dangerous	button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole	marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil		
Links to learning and assessment points					
Outcomes: Scientific Knowledge	Can describe how we see objects in light and can describe dark as the absence of light Can state that it is dangerous to view the sun directly and state precautions used to view the sun, for example in eclipses Can define transparent, translucent and opaque Can describe how shadows are formed	Can give examples of forces in everyday life Can give examples of objects moving differently on different surfaces Can name a range of types of magnets and show how the poles attract and repel Can draw diagrams using arrows to show the attraction and repulsion between the poles of magnets	Can name some types of rock and give physical features of each Can explain how a fossil is formed Can explain that soils are made from rocks and also contain living/dead matter	Can explain the function of the parts of a flowering plant Can describe the life cycle of flowering plants, including pollination, seed formation, seed dispersal, and germination Can give different methods of pollination and seed dispersal, including examples Can draw and label a diagram of their created flowering plant to show its parts, their role and the method of pollination and seed dispersal	Can sequence the main parts of the digestive system Can draw the main parts of the digestive system onto a human outline Can describe what happens in each part of the digestive system Can point to the three different types of teeth in their mouth and talk about their shape and what they are used for Can name producers, predators and prey within a habitat
Previous	Describe the simple physical properties of a variety of everyday materials. (Y1 - Materials)	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2 - Uses of everyday materials)	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Y2 - Uses of everyday materials)	Observe and describe how seeds and bulbs grow into mature plants. (Y2 - Plants) Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. (Y2 - Plants)	Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Y2 - Animals, including humans)
Year B Focus	N/A	N/A	N/A	N/A	Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. (Y3 - Animals, including humans)
Next	Recognise that light appears to travel in straight lines. (Y6 - Light) Use the idea that light travels in straight lines to explain that objects are seen because they give out	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. (Y5 - Forces)	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. (Y6 - Evolution and inheritance)	Describe the life process of reproduction in some plants and animals. (Y5 - Living things and their habitats)	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. (Y6 - Animals, including humans) Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. (Y6 - Animals, including humans)

	or reflect light into the eye. (Y6 - Light) Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. (Y6 - Light) Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. (Y6 - Light)	Identify the effects of air resistance, water resistance and friction, that act between moving surfaces. (Y5 - Forces) Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. (Y5 – Forces			Describe the ways in which nutrients and water are transported within animals, including humans. (Y6 - Animals, including humans)

Year B - YEAR 3/4

	York		Discover		Step Back In Time	
	York – Architecture		Myths, Legends and Folk Tales		Romans	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Animals inc Humans (Y3)	Living things and habitats (Y4)	Electricity (Y4)	Sound (Y4)	States of Matter (Y4)	
Skills Progression and Assessment						
	Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food – they get nutrition from what they eat. Identify that humans and some other animals have skeletons and muscles for support, protection and movement.		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.	Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases. .	Compare and group materials together, according to whether they are solids, liquids or gases Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	

			Recognise some common conductors and insulators, and associate metals with being good conductors.		
Suggested tasks	Classify food in a range of ways. Use food labels to explore the nutritional content of a range of food items . Use secondary sources to find out the types of food that contain the different nutrients. Use food labels to answer enquiry questions e.g. How much fat do different types of pizza contain? How much sugar is in soft drinks? Plan a daily diet to contain a good balance of nutrients. Explore the nutrients contained in fast food. Use secondary sources to research the parts and functions of the skeleton. Investigate patterns asking questions such as: Can people with longer legs run faster? Can people with bigger hands catch a ball better? **Set up testing in outdoor area and gather results.** Compare, contrast and classify skeletons of different animals. **Create and label stick skeletons.**	.	Construct a range of circuits. Explore which materials can be used instead of wires to make a circuit. Classify the materials that were suitable/not suitable for wires. Explore how to connect a range of different switches and investigate how they function in different ways. Choose switches to add to circuits to solve particular problems, such as a pressure switch for a burglar alarm. Apply their knowledge of conductors and insulators to design and make different types of switch. Make circuits that can be controlled as part of a DT project.	. Classify sound sources. Explore making sounds with a range of objects, such as musical instruments and other household objects. Explore how string telephones or ear gongs work. Explore altering the pitch or volume of objects, such as the length of a guitar string, amount of water in bottles, size of tuning forks. Measure sounds over different distances. Measure sounds through different insulation material **How does water create a barrier to sound? Use trays to set up experiments.** **Look at different sounds in different areas of outdoor area. How are these sounds affected? How does distance affect sound?** **Experiment using data loggers and volume.**	Observe closely and classify a range of solids. Observe closely and classify a range of liquids. Explore making gases visible e.g. squeezing sponges under water to see bubbles, and showing their effect e.g. using straws to blow objects, trees moving in the wind. Classify materials according to whether they are solids, liquids and gases. Observe a range of materials melting e.g. ice, chocolate, butter. Investigate how to melt ice more quickly. Observe the changes when making rocky road cakes or ice-cream. Investigate the melting point of different materials e.g. ice, margarine, butter and chocolate. Explore freezing different liquids e.g. tomato ketchup, oil, shampoo. Use a thermometer to measure temperatures e.g. icy water (melting), tap water, hot water, boiling water (demonstration). Observe water evaporating and condensing e.g. on cups of icy water and hot water. Set up investigations to explore changing the rate of evaporation e.g. washing, puddles, handprints on paper towels, liquids in containers. Use secondary sources to find out about the water cycle. **Investigate water cycle outdoors – two glass bowls, one smaller inside other, bottom bowl containing water, place smaller bowl inside and cover with cling film. Place a rock on top to weigh down and place in sunlight to observe condensation.** **Water cycle in a bottle.**

			Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol	Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation	Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle
Links to learning and assessment points					
Outcomes: Scientific Knowledge	Can classify food into those that are high or low in particular nutrients Can answer their questions about nutrients in food, based on their gathered evidence Can talk about the nutrient content of their daily plan Use their data to look for patterns (or lack of them) when answering their enquiry question Can give similarities e.g. they all have joints to help the animal move, and differences between skeletons		Can name the components in a circuit Can make electric circuits Can control a circuit using a switch Can name some metals that are conductors Can name materials that are insulators	Can explain what happens when you strike a drum or pluck a string and use a diagram to show how sounds travel from an object to the ear Can demonstrate how to increase or decrease pitch and volume using musical instruments or other objects Can use data to identify patterns in pitch and volume	Can give reasons to justify why something is a solid liquid or gas Can give examples of things that melt/freeze and how their melting points vary From their observations, can give the melting points of some materials Using their data, can explain what affects how quickly a solid melts Can measure temperatures using a thermometer Can explain why there is condensation on the inside the hot water cup but on the outside of the icy water cup From their data, can explain how to speed up or slow down evaporation Can present their learning about the water cycle in a range of ways e.g. diagrams, explanation text, story of a water droplet
Previous	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). (Y2 - Animals, including humans) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Y2 - Animals, including humans)		Explore how things work. (Reception)	Describe what they see, hear and feel whilst outside. (Reception – Sound) Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (Y1 - Animals, including humans)	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Y2 - Uses of everyday materials) Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2 - Uses of everyday materials)

Year B Focus	Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey	N/A	N/A	N/A	N/A
Next	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. (Y6 - Animals, including humans) Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. (Y6 - Animals, including humans) Describe the ways in which nutrients and water are transported within animals, including humans. (Y6 - Animals, including humans		Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. (Y6 - Electricity) Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. (Y6 - Electricity) Use recognised symbols when representing a simple circuit in a diagram. (Y6 - Electricity)	Sound needs a medium to travel, the speed of sound in air, in water, in solids. (KS3) Sound produced by vibrations of objects, in loud speakers, detected by their effects on microphone diaphragm and the ear drum; sound waves are longitudinal. (KS3)	Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. (Y5 - Properties and changes of materials) Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. (Y5 - Properties and changes of materials) Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. (Y5 - Properties and changes of materials) Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. (Y5 - Properties and changes of materials) Demonstrate that dissolving, mixing and changes of state are reversible changes. (Y5 - Properties and changes of materials) Explain 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. (Y5 - Properties and changes of materials)

Year A -Year 5/6

	York		Discover		Step Back In Time	
	In the War and Now/Location and Place Knowledge		World War/Economic Activity		Ancient Greece/Maps and Grid References	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Forces (Y5)		Properties and changes of Materials (Y5)		Living things & their Habitats (Y5)	Animals inc Humans (Y5)
Skills Progression and Assessment						
	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effects of air resistance, water resistance and friction that act between moving surfaces. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.		Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. Explain 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.		Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals.	Describe the changes as humans develop to old age.
Suggested tasks	Investigate the effect of friction in a range of contexts e.g. trainers, bathmats, mats for a helter-skelter. Investigate the effects of water resistance in a range of contexts e.g. dropping shapes through water and pulling shapes, such as boats, along the surface of water.		Investigate the properties of different materials in order to recommend materials for particular functions depending on these properties e.g. test waterproofness and thermal insulation to identify a suitable fabric for a coat. Explore adding a range of solids to water and other liquids e.g. cooking oil, as appropriate. • Investigate rates of dissolving by carrying out comparative and fair test.		. Use secondary sources and, where possible, first-hand observations to find out about the life cycle of a range of animals.	This unit will be taught through direct instruction linking to SRE

	Investigate the effects of air resistance in a range of contexts e.g. parachutes, spinners, sails on boats. Explore how levers, pulleys and gears work. Make a product that involves a lever, pulley or gear. Create a timer that uses gravity to move a ball. Research how the work of scientists such as Galileo Galilei and Isaac Newton helped to develop the theory of gravitation. **Cars and ramps or tennis balls and ramps. Changing variables size of the car, size of wheels, weight**	Separate mixtures by sieving, filtering and evaporation, choosing the most suitable method and equipment for each mixture. Explore a range of non-reversible changes e.g. rusting, adding fizzy tablets to water, burning **Mentoes and coke** **Pop-it rockets – investigate which materials work best to create a pop in the rocket in 30 seconds** **Make rockets and launch with the rocket launcher (plastic bottle and a tube)** Carry out comparative and fair tests involving non-reversible changes e.g. What affects the rate of rusting? What affects the amount of gas produced? Research new materials produced by chemists e.g. Spencer Silver (glue of sticky notes) and Ruth Benerito (wrinkle free cotton).	Compare the gestation times for mammals and look for patterns e.g. in relation to size of animal or length of dependency after birth. Look for patterns between the size of an animal and its expected life span. Grow and observe plants that reproduce asexually e.g. strawberries, spider plants, potatoes. **Take cuttings from a range of plants e.g. African violet, mint.** **Plant bulbs and then harvest to see how they multiply.** Use secondary sources to find out about pollination.	
Vocabulary	Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears	Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material	Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings	Puberty – the vocabulary to describe sexual characteristics (link to SRE policy and Jigsaw unit)
Links to learning and assessment points				
Outcomes: Scientific Knowledge	Can demonstrate the effect of gravity acting on an unsupported object Can give examples of friction, water resistance and air resistance Can give examples of when it is beneficial to have high or low friction, water resistance and air resistance Can demonstrate how pulleys, levers and gears work	Can use understanding of properties to explain everyday uses of materials, for example, how bricks, wood, glass and metals are used in buildings Can explain what dissolving means, giving examples Can name equipment used for filtering and sieving Can use knowledge of liquids, gases and solids to suggest how materials can be recovered from solutions or mixtures by evaporation, filtering or sieving Can describe some simple reversible and non-reversible Key vocabulary changes to materials, giving examples	Can present their understanding of the life cycle of a range of animals in different ways e.g. drama, pictorially, chronological reports, creating a game Can identify patterns in life cycles Can compare two or more animal life cycles they have studied Can explain how a range of plants reproduce asexually	Can explain the changes that takes place in boys and girls during puberty Can explain how a baby changes physically as it grows, and also what it is able to do
Previous	<u>Y3 Forces and Magnets</u> Compare how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some materials and not others.	<u>Year 4 States of Matter</u> Compare and group materials together, according to whether they are solids, liquids or gases Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C).	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. (Y3 - Plants)	Notice that animals, including humans, have offspring which grow into adults. (Y2 - Animals, including humans)

	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. Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.	Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.		
Year B Focus	Earth & Space (Y5)	N/A	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics	N/A
Next	Forces as pushes or pulls, arising from the interaction between two objects. (KS3) Using force arrows in diagrams, adding forces in one dimension, balanced and unbalanced forces. (KS3) Moment as the turning effect of a force. (KS3)	Chemical reactions as the rearrangement of atoms. (KS3) Representing chemical reactions using formulae and using equations. (KS3) Combustion, thermal decomposition, oxidation and displacement reactions. (KS3)	Reproduction in humans (as an example of a mammal), including the structure and function of the male and female reproductive systems, menstrual cycle (without details of hormones), gametes, fertilisation, gestation and birth, to include the effect of maternal lifestyle on the foetus through the placenta. (KS3)	Reproduction in humans (as an example of a mammal), including the structure and function of the male and female reproductive systems, menstrual cycle (without details of hormones), gametes, fertilisation, gestation and birth, to include the effect of maternal lifestyle on the foetus through the placenta. (KS3)

Year B – Year 5/6

	York		**Discover**		**Step Back In Time**	
	Settlements over the Centuries /Fieldwork		**Titanic and Industrial Revolution/Major Cities and Oceans**		**Mayans/Rainforest and Biomes**	
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
	Animals inc Humans (Y6)	**Living Things & their Habitats (Y6)**	**Electricity (Y6)**	**Light (Y6)**	**Evolution and Inheritance (Y6)**	**Earth and Space (Y5)**
Skills Progression and Assessment						

	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans.	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics.	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Use recognised symbols when representing a simple circuit in a diagram.	Recognise that light appears to travel in straight lines. Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. Describe the movement of the Moon relative to the Earth. Describe the Sun, Earth and Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.
Suggested tasks	Create a role play model for the circulatory system. Carry out a range of pulse rate investigations: ▪ fair test – effect of different activities on my pulse rate ▪ pattern seeking – exploring which groups of people may have higher or lower resting pulse rates ▪ observation over time - how long does it take my pulse rate to return to my resting pulse rate (recovery rate) ▪ pattern seeking – exploring recovery rate for different groups of people. Research the negative effects of drugs (e.g. tobacco) and the benefits of a healthy diet and regular exercise by asking an expert or using carefully selected secondary sources.	Use secondary sources to learn about the formal classification system devised by Carl Linnaeus and why it is important. Use first-hand observation to identify characteristics shared by the animals in a group. Use secondary sources to research the characteristics of animals that belong to a group. Use information about the characteristics of an unknown animal or plant to assign it to a group. Classify plants and animals, presenting this in a range of ways e.g. Venn diagrams, Carroll diagrams and keys. Create an imaginary animal which has features from one or more groups. **Minibeasts - Find their own, create the web, find information about them to**	Explain how a circuit operates to achieve particular operations, such as to control the light from a torch with different brightnesses or make a motor go faster or slower. Make circuits to solve particular problems, such as a quiet and a loud burglar alarm. Carry out fair tests exploring changes in circuits. Make circuits that can be controlled as part of a DT project	Explore different ways to demonstrate that light travels in straight lines e.g. shining a torch down a bent and straight hose pipe, shining a torch through different shaped holes in card. **Explore the uses of the behaviour of light, reflection and shadows, such as in periscope design, rear view mirrors and shadow puppets** **Light and Shadows** **Measuring time throughout the day** **Using a light meter.** **Reflecting at targets**	Design a new plant or animal to live in a particular habitat. • Use models to demonstrate evolution e.g. 'Darwin's finches' bird beak activity. Use secondary sources to find out about how the population of peppered moths changed during the industrial revolution. Make observations of fossils to identify living things that lived on Earth millions of years ago. Identify features in animals and plants that are passed on to offspring and explore this process by considering the artificial breeding of animals or plants e.g. dogs. Compare the ideas of Charles Darwin and Alfred Wallace on evolution. Research the work of Mary Anning and how this provided evidence of evolution. **Fossils- fossil hunting** **Stick skeletons**	Use secondary sources to help create a model e.g. role play or using balls to show the movement of the Earth around the Sun and the Moon around the Earth. Use secondary sources to help make a model to show why day and night occur. Make first-hand observations of how shadows caused by the Sun change through the day. Make a sundial. Research time zones. Consider the views of scientists in the past and evidence used to deduce shapes and movements of the Earth, Moon and planets before space travel. **Human solar system** **Looking at ratio to show distances between different planets. Use toilet tissue or steps to show relative distances between each of the planets in our solar system.**

	Circulatory system **Heart rate- exercises outside**	**categorise the different types. Going into the trees area to get ones from different environments. Build on explaining how it can be changed and affected.**				**Space** **Use space apps planets and stars etc – NASA app** **Planet facts** **Planet trail with key information to collect**
Vocabulary	Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle	Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering, non-flowering	Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage	Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous, straight lines, light rays	Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils	Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, solar system, rotates, star, orbit, planets
Links to learning and assessment points						
Outcomes: Scientific Knowledge	Can draw a diagram of the circulatory system and label the parts and annotate it to show what the parts do Can use subject knowledge about the heart whilst writing conclusions for investigations Can explain both the positive and negative effects of diet, exercise, drugs and lifestyle on the body Present information e.g. in a health leaflet describing impact of drugs and lifestyle on the body	Can use classification materials to identify unknown plants and animals Can create classification keys for plants and animals Can give a number of characteristics that explain why an animal belongs to a particular group	Can make electric circuits and demonstrate how variation in the working of particular components, such as the brightness of bulbs, can be changed by increasing or decreasing the number of cells or using cells of different voltages Can draw circuit diagrams of a range of simple series circuits using recognised symbols	Can explain how evidence from enquiries shows that light travels in straight lines Can predict and explain, with diagrams or models as appropriate, how the path of light rays can be directed by reflection to be seen, e.g. the reflection in car rear view mirrors or in a periscope Can predict and explain, with diagrams or models as appropriate, how the shape of shadows can be varied	Give examples of living things that lived millions of years ago and the fossil evidence we have to support this Can give examples of fossil evidence that can be used to support the theory of evolution Can identify characteristics that will make a plant or animal suited or not suited to a particular habitat	Can show, using diagrams, the movement of the Earth and Moon Can explain the movement of the Earth and Moon Can show using diagrams the rotation of the Earth and how this causes day and night Can explain what causes day and night Can explain evidence gathered about the position of shadows in term of the movement of the Earth and show this using a model Can explain how a sundial works Can explain verbally, using a model, why we have time zones Can describe the arguments and evidence used by scientists in the past
Previous	Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make	Recognise that living things can be grouped in a variety of ways. (Y4 - Living things and their habitats)	Identify common appliances that run on electricity. (Y4 - Electricity)	Recognise that they need light in order to see things and that dark is the absence of light. (Y3 - Light)	Describe in simple terms how fossils are formed when things that have lived are trapped within rock. (Y3 - Rocks)	Observe changes across the four seasons. (Y1 - Seasonal changes) • Observe and describe weather associated with the seasons and

	their own food; they get nutrition from what they eat. (Y3 - Animals, including humans) Describe the simple functions of the basic parts of the digestive system in humans. (Y4 - Animals, including humans) Identify the different types of teeth in humans and their simple functions. (Y4 - Animals, including humans)	Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. (Y4 - Living things and their habitats)	Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. (Y4 - Electricity) 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. (Y4 - Electricity) Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. (Y4 - Electricity) Recognise some common conductors and insulators, and associate metals with being good conductors. (Y4 - Electricity)	Notice that light is reflected from surfaces. (Y3 - Light) • Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. (Y3 - Light) Recognise that shadows are formed when the light from a light source is blocked by an opaque object. (Y3 - Light) Find patterns in the way that the size of shadows change. (Y3 - Light)	Recognise that environments can change and that this can sometimes pose dangers to living things. (Y4 - Living things and their habitats)	how day length varies. (Y1 - Seasonal changes)
Year B Focus	Describe the changes as humans develop to old age.	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. (Y5 - Living things and their habitats) Describe the life process of reproduction in some plants and animals. (Y5 - Living things and their habitats)	N/A	N/A	Describe the life process of reproduction in some plants and animals. (Living things and their habitats - Y5)	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. (Y5 forces)
Next	The consequences of imbalances in the diet, (KS3) The effects of recreational drugs (including substance misuse) on behaviour, health and life processes. (KS3) The mechanism of breathing to move air in and out of the lungs. (KS3)	Differences between species. (KS3)	Electric current, measured in amperes, in circuits, series and parallel circuits, currents add where branches meet and current as flow of charge. (KS3) Potential difference, measured in volts, battery and bulb ratings; resistance, measured in ohms, as the ratio of potential difference (p.d.) to current. (KS3)	Use of ray model to explain imaging in mirrors, the pinhole camera, the refraction of light and action of convex lens in focusing (qualitative); the human eye. (KS3) Light transferring energy from source to absorber leading to chemical and electrical effects; photo-sensitive material in the retina and in cameras. (KS3)	The variation between species and between individuals of the same species means some organisms compete more successfully, which can drive natural selection. (KS3) Changes in the environment may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction. (KS3)	Our Sun as a star, other stars in our galaxy, other galaxies. (KS3) The seasons and the Earth's tilt, day length at different times of year, in different hemispheres. (KS3)