

Science Curriculum Coverage: Key Stage One

Expected Vocabulary. NC Objectives. Intended activities. **Additional knowledge for prior learning for KS2**

<p>EYFS links</p> <p>Prime areas</p> <p>Physical Development: *Moving and Handling *Health and Self-Care</p> <p>Personal, Social and Emotional Development: *Making Relationships * Self Confidence and Self-Awareness * Managing Feelings and Emotions</p> <p>Communication and Language: * Listening and Attention * Understanding * Speaking</p>
<p>Specific Areas</p> <p>Literacy: *Reading *Writing</p> <p>Mathematics *Numbers *Shape, Space and Measure</p> <p>Understanding the World: *People and Communities * The World * Technology</p> <p>Expressive Arts and Design: *Exploring and Using Media and Materials *Being Imaginative</p>

Year One	Curriculum Objective	Knowledge/Activity	Vocab
Topic / Autumn One	<p>Materials</p> <p>Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p>	<p>Discuss the term material. Pose question – how many different types of materials can you list? In small groups list as many as they can and give examples of each. Make a class list (working wall).</p> <p>Go on a hunt around the class looking for things made of one specific material. – give each table a different material and find objects made from it. Draw in books.</p> <p>Play feely bag games – children describe objects from touch alone – photo and book with list of words around edge – chn guess what it its.</p>	<p>Hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent</p>

	<p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>	<p>Discuss the terms natural and man-made. Look at inventors such as John Dunlop. Discuss if an object can be made from different materials eg a spoon – wood/metal/plastic</p> <p>Discuss how materials may be grouped. Identify words and phrases suited for sorting e.g. flexible, stretchy. Discuss the idea that objects may fall into several categories. Complete yes/no game in file. Learn how to sort using venn diagrams.</p> <p>Look at things which float and sink. Complete simple investigation activity whole class working in groups – bowls of water with range of objects – will it float? Predict and test. Record findings in book.</p> <p>Give the children a range of materials and ask which would be best for making a pirate hat.. Predict what they think and give simple reasons. Experiment making the object from different materials eg a hat from paper, fabric and wood. Discuss findings. Were they as the children had predicted? Children to record findings in books – take photos of chn with their hats – chn annotate thoughts.</p> <p>Look at strengthening piece of paper exp in extension and enrichment bk if time</p> <p>Give each pair of children an object made from a material eg a peg, newspaper, pair of socks. Elastic band, plastic bottle-children have to predict if they can change the shape of them – learn terms such as flexible, solid squashing, bending, twisting and stretching.</p> <p>Record observations in own way</p>	
<p>Topic / Autumn Two</p>	<p>Ourselves Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p>	<p>1. Play a game of 'Simon says' to learn all the parts of the body. Discuss how some parts are the same e.g. 2 arms, legs, eyes etc but that some are different e.g. hair colour, height etc. Label body parts.</p> <p>2. Make a class bar chart of eye colour. Interpret results. What do the findings tell us? Discuss how all humans are different even though we have the same body parts.</p>	<p>Parts of the body - Head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth.</p> <p>Senses – smell, taste, hearing, sight, touch</p>

		<p>Talk about the word senses. Pose questions – what are your senses and what are they for? List the five senses and why we need them. Discuss how brain sends messages (Hamilton resource sheets)</p> <p>Children can each write a sentence beside the sense to explain which body part is used.</p> <p>Watch sensations video</p> <p>Investigating sense of touch and hearing. Have a bag with about 6 objects to feel, Children take it in turns to feel for an object say what it is. Ask They take out their object and see if they are correct. As a group or independently the children fill in a table with ticks and crosses (Hamilton session resources).</p> <p>Secretly give each child in turn one of the objects in the bag to make a noise with. Ask the other children in the group to listen very carefully to see if they can guess what the objects are.</p> <p>Make feely hands with different textures either all smooth or all rough - describe how they feel</p> <p>Investigate sense of sight and smell. Children look at pictures of different eyes (session resources). They try to identify which animals these eyes belong to (owl, chimpanzee, human, cat, frog, elephant, crocodile).</p> <p>Kims game</p> <p>Smell exploration: provide the group with 6 numbered containers with holes with different strong smelling substances that the children commonly come across. If you put them on wet tissues/cotton wool it enhances the smell, e.g. garden mint, honey, marmite, shower gel, orange peel, onion, banana, peppermint sweet. Children try to identify the smells and fill in a table (Hamilton sheet)</p> <p>Draw pictures of smells they like/dislike</p> <p>Investigate sense of taste – try different flavours of crisps and can they identify what they are using taste alone? How can they tell the flavour?</p>	<p>Emotions taste/smell - Delicious Disgusting Amazing Fantastic Revolting</p> <p>Touch - textures Spiky, rough, smooth, bumpy, tickly,</p>
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Topic / Spring One	<p>Weather and Seasons</p> <p>Observe changes across the four seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>	<p>Order the seasons & months. Discuss the four seasons & which months are in each. Compare how the apparent movement of Sun through the sky changes through the year using previous observations. Chn draw a tree in each season & tally & graph class birthdays and discuss findings.</p> <p>Go on a nature walk around the school – small piece of card with double sided tape across the middle. Children stick objects on to it to reflect findings in winter. Repeat in Summer.</p> <p>Use some poems to stimulate discussion about the weather at different times of the year. Discuss the variety of weather we experience & look at weather map symbols & forecasts. Record weather over a week possibly using weather instruments. Children keep own diary of weather. Draw conclusions at the end of a week of observation. Repeat this activity in the Summer – compare differences</p> <p>Research sun facts using different source materials & then children draw/paint the Sun and label with their findings. See where the Sun is in the sky at different times of the day and at different times of the year. In groups draw a conclusion as to what</p>	<p>Autumn Summer Winter Spring</p> <p>Rotation Movement</p>

		<p>is happening to the sun to make it apparently 'move' Children record their findings by drawing or painting.</p> <p>Discuss how to stay safe in the Sun & children then design a sunhat for themselves or a teddy! What materials could they use and why? Experiment with different materials to see which would be the best one to use. Discuss why the Sun is so important to us. Discuss how the seasons are linked to the position of the Sun in the sky & the number of hours it's visible during the day.</p> <p>Choose a sunny day to investigate how shadows change throughout the day. This should be done at different times of the year. Chn record their findings using drawings, make shadow animals & play with their own shadows. Investigate shadow length using torches – what happens when an object is brought nearer to the torch?</p>	
Topic / Spring Two	<p>Animals</p> <p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</p>	<p>Spread pieces of paper around the room with a range of headings on mammals, bird, reptile, amphibians, insect, fish. (stick to vertebrates) Children circulate classroom writing/drawing anything they know about the word on piece of paper below. Discuss words – use sheet animal classification survey to help identify the differences. Answer questions – what is a mammal, what makes a bird different to a fish?</p> <p>Complete cut and stick sheet sorting animals into categories</p> <p>Introduce terms herbivore, carnivore and omnivore. Sort pictures/labels/plastic animals into venn diagram In books – LA – complete venn diagram sticking pictures into correct spaces. MA/HA – complete sheet from Hamilton – describing what a carnivore etc is. Choose and animal and think about where it lives. Does the food it eat grow readily in its habitat? Play sorting game (see ICT resources)</p> <p>Model describing an animal without saying what it is. Can children identify the animal you have chosen? Play headbands games using animal cards in file Can other children guess which animal is being described? Do the same activity in pairs. Look at a selection of plastic animals or photographs of animals and discuss the different ways in which these could be grouped/ sorted, e.g. number of legs, with or without a shell, with or without wings,</p>	Fish, amphibians, reptiles, birds and mammals, carnivores, herbivores and omnivores.

		<p>diet, etc. Sort them together into piles in a number of different ways. Explain that scientists do group animals together, e.g. into fish, birds, mammals, herbivores, carnivores etc. In mixed ability groups with a range of animals (pictures or plastic) the children can sort them into groups however they wish. Come back as a class and each group explain their sorting. Practical sorting activity – record through photos stuck in books and annotated.</p> <p>Revise last weeks work on sorting animals. Have a range of headings up – fish, amphibian, mammal, reptile, bird. Read out some statements eg has wings, lives in water – put under correct heading. Learn the difference between each structure. In books complete cut and stick sheet (to be made) and draw an example of each animal and place under correct heading eg all have wings, all have 4 legs etc (focussing on structure of animals).</p> <p>Start in a fairly arid part of the playground and look for plants. Why are there not many plants here? Will there be many animals or minibeasts here? Walk round to the nature trail, wild area, etc. Ask Do you think there will be more animals here? Why? Why are plants important? Give children time walk around carefully looking for animals in both areas. Come back as a group and discuss. With help they could collect one minibeast between 2 people, with the class ending up with as many different kinds as possible. Take back to class. Talk about and try to name what you have found, make labels together to put by the pot. Children move round doing careful drawings, counting legs, etc. Then return minibeasts to the place they were found. (Take photos of minibeasts too – children could use these in independent activity if they have not managed to make many drawings.)</p> <p>Have a circle time with questions which start ‘I wonder why...?’ eg I wonder why polar bears have fur? I wonder why birds live in trees? Encourage children to ask questions about any animal. Choose an animal that they are interested in. Make a mini fact file about it – give headings eg habitat, food, description of animal. If necessary have some questions pre prepared and ask the children to choose on and go and research it</p>	
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<p>Topic / Summer One</p>	<p>Plants</p> <p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p>	<p>Start of every lesson – take a photo of one tree and one plant eg cowslip that won't get damaged by children playing. Store photo and repeat taking picture at start of every science lesson. Put together at end to see how plant has changed over 6 weeks. Learn the main parts of a flowering plant and a tree and discuss what each part does – need to know leaves, flowers (blossom), petals, fruits, roots, bulb, seeds, trunk, branch, stem. Look at a range of photos of trees and flowering plants at different stages eg flowering, shedding leaves etc. Stick several examples into books and label parts. Plant some seeds in clear gel pots (TTS) so chn can observe growth</p> <p>Take photo of same tree/flowing plant.</p> <p>Discuss the terms deciduous and evergreen. Enquiry question – Do all plant leaves look and feel the same? Why do some plants not lose their leaves in Winter? (come from warmer climates where it wasn't necessary) Before lesson collect some leaves from school grounds. Ask chn to look at closely under mag glass and observe difference between evergreen and deciduous leaves. Use TTS portable scope (in Science trays) to enlarge on IWB for whole class to see and describe. Record findings in books – chn to draw own observations adding labels and captions. Draw eggs both types of leaves.</p> <p>Take photo of same tree/flowing plant.</p> <p>Go for a walk around the school grounds. Identify the main trees that are growing there – use woodland trust sheets to help identification. Do the children notice a trend of the common trees growing? Take photos of some of the trees identified – stick photos in books with label. Write a brief description of one of the trees eg This is an oak tree because the leaves are....., the trunk is.....</p> <p>Take photo of same tree/flowing plant.</p> <p>Enquiry question – do the same plants grow all around the school? If not which plants grow in different areas and why? Take some hoops from the hall (small ones) Put chn into groups with 1 hoop. Place the hoop in a given area and draw the plants that are</p>	<p>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).</p>
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		<p>found there – encourage careful recording eg how many leaves does the plant have, what colour, what plant is it? etc. Take photos as well. Move to a different area and repeat. Look carefully at how the plants change. If time contrast with a 3rd area. (areas – middle of playing field, shady wooded area by pond and by the trees next to the climbing frame?)</p> <p>Take photo of same tree/flowering plant.</p> <p>Enquiry question – are all seeds the same? How do they differ? Look at a range of seeds and bulbs. Place lots on the table and ask the children to sort them into their own categories eg by size/by colour/by texture. Again photograph their sorting with labels to say how they have sorted them. Use a ruler to measure size or sort by weight. (Mark off on assessment grid sc1 if they can orally describe their sorting if unable to record)</p> <p>Take photo of same tree/flowering plant –put all pictures together and compare how the plant changes over time</p> <p>Seasons walk – repeat seasons walk from Winter – collect examples of interesting items that show signs of Summer. Bring back and mount onto card with double sided tape. Compare with their collection they made in Winter. Record how they are different. What changes have the season brought?</p> <p>Look at seeds in gel pots – how have they changed</p>	
Topic / Summer Two	Investigations	<p>Explain to the children that they are going to make find out the strongest way to make a rope for a drawbridge on their DT model castle using crepe paper. Give each table some crepe paper strips about 1 inch wide and as long as possible. Ask them ‘play’ with the strips working out how strong it is and discovering any way to make it stronger eg twisting the 1 piece or twisting several piece together. Investigation question - How do we know which method is the strongest though? On small pieces of paper write out some questions that they could find the answer to eg is 1 twisted piece stronger than 2 twisted pieces, which will hold the most weight, is black crepe paper stronger than red etc. Choose one of the questions (lead chn to the question that involves twisting the paper to make it stronger.) Ask the chn in groups to plan an investigation that could help them answer the question. Discuss</p>	

	Scientists and Inventors	<p>what they may need eg weights, how can we make sure we only change 1 thing (fair testing) Plan on paper – pcopy groups work and stick in science books.</p> <p>Revise work last week. Talk chn through the experiment – 3 x strips of crepe paper of same length eg 30cm. 1 is left flat, 1 is twisted and the other has 2 pieces twisted together. Thread 1 piece of paper through handles of a large freezer bag and hold the end of the paper 1 in each hand. Drop weights into the bag until the crepe paper strip breaks. Split the chn into 3 groups and T work with each group individually to carry out experiment. Carry out exp using each of the 3 strips. Count up the weights each time and record. Take photos and all the time discuss how the experiment is being done fairly. At the end discuss findings and draw a conclusion. Others whilst waiting for turn can work with different materials eg magnets, magnex construction, sorting objects into groups, drawing sets of objects made from 1 material etc</p> <p>Look at photos from the experiment last week – what did they learn, what did they discover and did anything surprise them? Write up the experiment from last week in their science books setting out under simple headings –enquiry question, equipment needed, what we did, results and conclusion. Draw pictures etc or stick photos into books</p> <p>For the remaining weeks identify the children with gaps in their scientific understanding and carry out some small group booster work to secure their knowledge. Use assessment docs to identify these children and plan according to their needs</p> <p>Jane Goodall - Chimpanzees</p>	
Year Two			
Topic / Autumn One	Materials Identify and compare the suitability of a variety of everyday materials, including	The children go on a material hunt around school identifying a range of different materials.	Material, rock, purpose, change, wood, brick, properties, recycle,

Builds on from Materials in Y1.	<p>wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>The children think about the suitability for a range of materials e.g. wood for a rabbit hutch, plastic for a baby beaker etc. They have to consider what the material is most suitable.</p> <p>Children carry out an investigation to how different materials can be changed.</p>	<p>plastic, paper, reuse, glass, cardboard, record, metal, uses, compare, tarmac, suitability</p>
Topic / Autumn Two Builds on from Materials in Y1 and Y2 A1.	<p>Materials</p> <p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>The children consider which materials contributed to the GFOL and how this was an irreversible change. The children also consider different materials to rebuild London after the fire.</p> <p>Children test a range of materials to check their suitability:</p> <ul style="list-style-type: none"> • Best material for an umbrella • Best material for keeping ice cool • Best material for getting the gingerbread man across the river. 	<p>Material, rock, purpose, change, wood, brick, properties, recycle, plastic, paper, reuse, glass, cardboard, record, metal, uses, compare, tarmac, observation, test, invent, suitability, conclude.</p>
Topic / Spring One Builds on from Plants in Y1.	<p>Plants</p> <p>Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>Children observe different plants – sunflowers, cress, broad beans. Children learn about seeds and bulbs. Children learn about the lifecycle of a sunflower. Children learn about the different parts of a plant.</p> <p>Children plant their own seeds and conduct research and write a simple explanation for how to look after their seeds to ensure that they grow.</p> <p>Investigate the best place to grow cress: in the window, in the cupboard, in the window or the outside shed.</p>	<p>Roots, stem, seed, bulb, leaf, flower, grain, legume, fruit, compare, predict, comparative test, germinate, observations, life cycle, life processes</p>
Topic / Spring Two	Scientists and Inventors	Marie Curie – x-rays – radioactivity.	
Topic / Summer One Builds on from Plants in Y1 and Plants in Y2 sp.2	<p>Living things and their habitat</p> <p>Explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>Identify that most living things live in habitats to which they are suited and</p>	<p>Children to sort cards into living and not living. Children to sort cards into dead and never alive. Children to think about a living thing and then use MRS GREN to describe how it does the 7 life processes.</p>	<p>Habitat, micro-habitat</p> <p>Living, non-living, dead, herbivore, carnivore, omnivore, urban, woodland, pond, coast,</p>

	<p>describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.</p> <p>Identify and name a variety of plants and animals in their habitats, including microhabitats.</p> <p>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.</p>	<p>Children to consider the local habitats and discuss the features of these habitats. Children to draw a map of their local habitat and label its features.</p> <p>Children think about different habitats and how they adapt to that habitat. What is in that habitat to meet their needs? Children use their knowledge about the arctic habitat and design a new animal for the arctic and explain how the habitat meets its basic needs and how the animal is adapted to survive in the environment.</p> <p>Children go on a microhabitat hunt. Children to think about the different living things in that habitat. Children to investigate the different living things in that microhabitat, create a tally chart and then represent their data in a pictogram.</p> <p>Children to consider different habitats and different animals in that habitat. Children to explain how the different animals are dependent on the animals or sources of food in their habitat. Children to discuss the absence of one food source and the impact it has in the whole habitat.</p> <p>Children complete food chains for different habitats thinking about the producers, consumer, prey and predators.</p>	<p>microhabitat, minibeast, ocean, Arctic, tropical, desert, consumer, producer, predator, prey.</p>
<p>Topic / Summer Two</p>	<p>Animals including humans Notice that animals, including humans, have offspring which grow into adults.</p>	<p>Animal babies – children match the baby animals with the matching adults using the correct names for the baby and adult version of the animals. Children describe how animals change through their life. Children to consider which animals hatch from an egg and which grow in the mother’s womb.</p> <p>Growing and changing – children to match objects/milestones linked to different stages of the human life. Children will complete a human timeline. Children to participate in a comparative investigation to see how if you get faster or slower as you get older.</p>	<p>Mammals, birds, reptiles, amphibians, womb, egg, spawn, pregnancy, chick, hatchling, tadpole, adult.</p> <p>Baby, toddler, child, teenager, adult, elderly.</p>

	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).	Basic needs – to explain which 3 things humans/animals need to survive. Children to consider a pet and create a fact file for how to care for their pet.	Basic needs, survive, water, food, air, lungs, gills, shelter.
	Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Eating healthy - children to sort a range of different foods that they should eat and food they should eat little of. Children then design their own menu plan using the recommended amounts of each food type. Look at the food types on a pie-chart.	Meat, protein, starchy foods, fruits, vegetables, dairy foods, sugary foods, fatty foods,
		Exercise – children discuss the importance of exercise and the impacts of it. Children to design 5 1 minute exercises. Children to record how many times they can complete their exercises in one minute. Children to discuss how they felt after the exercise. Use a stop-watch and count the number of times.	Exercise, physical activity, heart, muscles, calories.
		Keeping clean – children to discuss the importance of good hygiene. The children will see how sneezing can spread germs. Demonstrate this using a spray bottle and green food colouring. The children then investigate the best way to clean their glittery hands.	Clean, hygiene, germs.

Science Curriculum Coverage: Key Stage Two

Expected Vocabulary. NC Objectives. Intended activities. Additional knowledge for upper year groups

Year Three	Curriculum Objective	Knowledge/Activity	Vocab
Topic / Autumn One Builds on from Y2 Animals including Humans.	Animals including humans. 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.	Look at types of nutrition- Where they come from? What they are used for? Photosynthesis: How do plants and animals obtain food? Make your own pie chart with the nutrients that humans need Amounts of Nutrition Food Groups Vs Types Of Nutrients	Plants, animals, humans, food, nutrition, food groups, nutrients, vitamins, minerals, proteins, carbohydrates, fibre, water, fats, repair, digest, Skeleton,

	<p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>Chn to make their own pie chart with the amount of nutrients and that they need to keep them healthy.</p> <p>Types of skeletons- look at sea creatures a variety brought in for children to explore - endoskeleton, exoskeleton, hydrostatic skeleton, invertebrate, vertebrate. Complete sheet to characterise the creatures.</p> <p>Naming bones- Children to complete the skeleton with the bones that already know. Play a quiz- encourage use of both common names and scientific names. Chn to then make their own bones from salt dough, mould it and label it. Also label the bones of an animal.</p> <p>Muscles Look at the joints and the movement within bodies. Chn to complete the activity, predict and carry out the movement- which muscles they are using? Is it a joint? Ball and socket?</p>	<p>endoskeleton, exoskeleton, hydrostatic skeleton, invertebrate, vertebrate, Skeleton, skull, cranium, rib, costal, rib cage, thoracic cage, collarbone, clavicle, ankle, talus, funny bone/ upper arm bone, humerus, leg bone (upper), femur, leg bones (lower), tibia, fibula, finger bones, phalanges, hand bones, metacarpals, shoulder blade, scapula, jaw, mandible, backbone, vertebrae, wrist, carpals, hips, pelvis, knee cap, patella, foot bones, metatarsals, lower arm bones, radius, ulna, toe bones, breastbone, sternum, Protect, move, movement, support, skeleton, joints, hinge joint, ball and socket joint, gliding joint.</p>
<p>Topic/ Autumn Two</p>	<p>Light Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>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.</p>	<ul style="list-style-type: none"> • Investigate the nature of darkness, light and sight with a torch, a cardboard box and pencil holes (exploring/drawing conclusions) • Predict and then investigate how well different colours and materials reflect light in a simulated dark cave, use results to sort and classify the samples (predicting/exploring/classifying) • Discover the properties of mirrors and reflections by undertaking different investigative tasks and use scientific 	<p>Light, shadow, light source, light beam</p>

	<p>Recognise that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>Find patterns in the way that the size of shadows change.</p>	<p>knowledge on light to explain their findings (exploring/drawing conclusions)</p> <ul style="list-style-type: none"> • Investigate how different objects create shadows (exploring). • Investigate the effect of moving the light source on the size of shadows (fair testing/pattern seeking) • Investigate how coloured light beams mix and what its like to look through different coloured filters (exploring). <p>Extended writing opportunities</p> <p>Non-chronological report: Write a report about all that you have discovered about shadows for BBC Bitesize.</p> <p>Instructions and explanations: Write a set of instructions for younger children explaining how to make a shadow puppet theatre and puppets.</p>	
Topic/ Spring 1	<p>Rocks and Soil</p> <p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>Recognise that soils are made from rocks and organic matter.</p>	<p>Look at the types of rocks- Rock detectives- Name the rocks Which do you think they are? Why? Group them together based on their appearance.</p> <p>Investigation- There are 4 different investigations where children have to test the rocks to find the best one for each scenario. Chn to test durability, waterproof, permeable or impermeable, do an acid test using white vinegar.</p> <p>Describe how rocks are formed, we are going to make the 3 types of rocks using chocolate: https://leftbraincraftbrain.com/how-to-make-a-delicious-rock-cycle-with-chocolate-rocks/ embed names sedimentary, metamorphic, igneous and about erosion</p> <p>Explain how the earth is formed using biscuits and sauces in a clear pint glass to show the layer. Chn to draw their own layers and label them.</p>	<p>Appearance Geologist's Permeable, Impermeable Mine Marble Granite Slate Chalk Limestone Sandstone Basalt Pumice Clay, Acid, Gas, Durable, Waterproof, Magma, Crust, Mantel, Igneous Sedimentary, Metamorphic Erosion, Sediment Decaying, Microbe, Top</p>

		<p>Investigations on soils - How permeable are the soils? Slip the class into mixed ability grps of 6. Adult to demo the experiment first talk through the investigation sheet and explain fair test. Carry out investigation one soil at a time- chn will need to wash out beaker after each soil. Explain about having jobs within the investigation and to rotate for each soil so that everyone gets a turn at something. Each soil will have the same amount of water poured over it to ensure a fair test; chn will time how long it takes to get through. What is soil made up of?</p> <p>Were dinosaurs real? Look at the fossilisation process- order the process Become palaeontologists - Mary Anning and her work.</p>	<p>soil, Sub soil, Rocky soil, Bedrock, Earth's crust, Mantle, Outer core, Inner core Humus, Permeable, Fair test Fossil, Fossilisation Organism Mary Anning, Palaeontology, ichthyosaur, trace fossils, coprolite, dinosaurs, Jurassic, Lyme Regis, seaside, beach, poverty, scientists,</p>
<p>Topic / Spring Two</p> <p>Builds on from Plants in Y1 and Y2.</p>	<p>Plants Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>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.</p> <p>Investigate the way in which water is transported within plants.</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<ul style="list-style-type: none"> • Make a list of what we know and what we want to find out. Plant some beans in transparent jars and place them in different conditions to begin some observations. Use data loggers and other equipment to record light levels, water etc. (observing over time) • Use secondary sources to discover the parts of a plant and how they vary. Look at a variety of different plants making labelled sketches (analysing secondary sources/ exploring) • Make a list of plants the aliens will need to take to the space farm. Classify according to human use for leaves, stems, roots, flowers, fruits, seeds (exploring/ classifying and identifying) • Review the data from beans. Create graphs and charts to compare growth. Ask questions. Set up further tests with fast germinating varieties to test hypotheses. (exploring/pattern seeking/ fair testing) • Investigate the way in which water is transported within plants. (exploring) • Review all experiments and discuss findings. Make presentations to aliens via a satellite link! (exploring/pattern seeking/ fair testing). <p>Extended writing opportunity</p>	

		<p>Recount: Zinnia wants you to write up one of your investigations as fully as you can so she knows how to carry it out herself. Include all instructions, results and conclusions.</p> <p>Play-writing: Write a short play that shows what happened when Zinnia managed to come and visit your classroom to ask questions about plants.</p>	
<p>Topic / Summer One</p> <p>New learning concept – vocabulary understanding very important</p>	<p>Forces and Magnets</p> <p>Compare how things move on different surfaces.</p> <p>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.</p> <p>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.</p> <p>Describe magnets as having two poles.</p> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<ul style="list-style-type: none"> • Ask questions and then investigate how toy vehicles run on different surfaces. Begin to explain in terms of forces (exploring/ classifying and identifying) • Investigate how it is forces that make things move (pushes and pulls) and that magnetic forces can move things at a distance without forces touching (exploring/ classifying and identifying). • Investigate how magnets attract some materials and not others, Comparing and grouping materials (exploring/ predicting/classifying and identifying) • Investigate the polarisation of magnets, making predictions and testing ideas (exploring/ predicting). Develop a game or activity that uses magnetic forces by trying out a variety of ideas (exploring) • Test your knowledge of magnetic forces. Design a poster to explain the science behind your game or activity stage it in an attractive eye catching way (analysing secondary sources) <p>Extended writing opportunity</p> <p>Recount: Write a letter to Mr Andrew Newton of the British Scientific Society to tell him about your initial investigation into the forces needed to move a toy vehicle on different surfaces.</p> <p>Non-chronological reports: Write an information leaflet for younger children about the Magic of Magnets.</p> <p>Explanations: Write questions and explanations about magnetic forces for the visitors to your science fair.</p>	<p>Force, magnets</p>
<p>Topic / Summer Two</p>	<p>Scientists and Inventors</p>	<p>Sir Isaac Newton – Forces.</p>	<p>Forces, push, pull, friction, Sir Isaac Newton</p>
<p>Year Four</p>			

<p>Topic / Autumn One</p> <p>New learning concept – vocabulary understanding very important</p>	<p>Electricity</p> <p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p>Make an electrical circuit, identifying the parts and their functions.</p> <p>Explain why a circuit will or will not work.</p> <p>Design a safety poster on different rooms of the house.</p> <p>Look at a circuit with a switch the bulb on and off.</p> <p>Make a simple circuit and add in a range of items that will act as a conductor and insulator.</p> <p>Cross-curricular link to maths – children complete a venn diagram for ‘mains’ and ‘battery’ powered appliances.</p>	<p>Cell, battery, battery holder, bulbs, bulb holder, wire, crocodile clips, buzzers and motors, and switches. Circuit. Conductor and insulator.</p>
<p>Topic / Autumn Two</p> <p>Builds on from Y1/Y2 Materials topic.</p>	<p>States of Matter</p> <p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C.)</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>• Explorify – Can we build an ice skyscraper? Practical session.</p> <ul style="list-style-type: none"> • Identify misconceptions and classify materials into solids, liquids and gases (sorting and classifying). • Investigate the presence of gases (exploring). Pour water over marbles and place a sponge into a bowl of water – what happens? The gaps of air are filled with water – bubbles rise to the top. • Understand the behaviour of particles in the different states and use a thermometer to observe temperature changes of water (observing over time/exploring). – Use data loggers. • Investigate evaporation and condensation (fair testing/exploring). Link to Geography – the water cycle. Sing the water cycle song. 	<p>Solids, liquids and gases. Water cycle, evaporation, condensation.</p>

		<ul style="list-style-type: none"> Understand and explain the water cycle using scientific language (exploring). Bowl of hot water and smaller bowl inside, place cling film over the top. Observe the precipitation. Demonstrate an understanding of states of matter by recreating a range of simple practical enquiries (exploring). <p>Extended writing opportunity Information text: Write an information booklet about solids, liquids and gases, summarising the properties of these states of matter and the evidence for your understanding. Chronological report: Create a leaflet explaining the water cycle to others, using scientific language, for the local water authority's education pack.</p>	
<p>Topic / Spring One</p> <p>New learning concept – vocabulary understanding very important</p>	<p>Sound</p> <p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>Find patterns between the pitch of a sound and features of the object that produced it.</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p>	<ul style="list-style-type: none"> Go on a 'sound walk' through the school and begin to think about how sound is made (exploring). Explore sound further and investigate vibrations and how sound travels (exploring, problem solving). Investigate pitch and volume by exploring instruments and the different sounds they make (exploring, pattern seeking). Understand how we hear sounds and begin to consider ways to reduce what we can hear (exploring, pattern seeking, problem solving). Plan and conduct an investigation into which material best reduces the sounds we hear (pattern seeking, fair testing, exploring over time, problem solving). Present your ear defenders design, and explain your findings (problem solving). <p>Extended writing opportunity Explanation text: Make a picture book summarising what you have found out about sound, how to vary the pitch of a sound and the pattern between the pitch and volume of a sound. Persuasive writing: Write an advertising leaflet with diagrams describing why your ear defender design is the best.</p>	<p>Vibrations, pitch, volume,</p>
<p>Topic / Spring Two</p>	<p>Living things and their habitat</p> <p>Recognise that living things can be grouped in a variety of ways.</p>	<ul style="list-style-type: none"> Ask relevant questions about living things and their habitats and begin to group them (sorting, classifying and identifying). 	<p>Vertebrate animals into groups such as fish, amphibians, reptiles, birds, and mammals; and</p>

<p>Builds on Y1 Animals topic and Y2 Living things and their habitat topic.</p>	<p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<ul style="list-style-type: none"> • Observe local habitats and record living things they see around them (exploring, sorting, classifying and identifying). • Create a branching database to sort and identify local invertebrates (sorting, classifying and identifying). • Make close observational drawings and large-scale drawings; understand that tiny details of features help with classification (classifying and identifying). • Write a branching database for a variety of living things in the wider environment (researching and analysing secondary sources, classifying and identifying). <p>Extended writing opportunity Non-chronological writing: Write a newspaper article, for the Nature column, about your observations during your trip within the local environment. Biography: Research some key facts about Carl Linnaeus and write a short biography about him explaining his importance.</p>	<p>invertebrates into snails and slugs, worms, spiders, and insects.</p>
<p>Topic / Summer One Builds on Y2 'Living things' topic.</p>	<p>Animals including humans Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<ul style="list-style-type: none"> • Learn about the first stage of the digestive system, consider why our teeth are different shapes and have different functions (exploring, researching, analysing secondary sources) • Use everyday objects to demonstrate the human digestive system (exploring) • Use physical activity to demonstrate an understanding of the functions of each part of the digestive system (exploring). • Find out what we can learn from a poo (exploring, researching, analysing secondary sources) • Interpret food chains and discuss the impact of changes to a chain (exploring, researching, analysing secondary sources) • Plan and perform a 'Healthy Teeth' assembly for an invited audience (problem solving). <p>Extended writing opportunity Information text: Write informative zigzag books about the different parts of the digestive system for your local health centre.</p>	<p>Mouth, tongue, teeth, oesophagus, stomach and small and large intestine</p>

		Persuasive writing: Create a poster and leaflets, for the visitors to your 'Healthy Teeth' assembly, about the importance of looking after your teeth.	
Topic / Summer Two	Scientists and Inventors	Alexander Graham Bell - Sound	
Year Five			
Topic / Autumn One New learning concept – vocabulary understanding very important	<p>Earth and Space</p> <p>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>Describe the movement of the Moon relative to the Earth.</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p>	<p>Draw and explain the Geocentric and Heliocentric approach.</p> <p>Children to draw and label a diagram of the Earth, moon and sun.</p> <p>Examine and draw the difference between the 'Flat Earth' Theory and 'Spherical Earth'.</p> <p>Children to draw a diagram showing how the sun appears in the sky and explain this relates to the movement of the Earth.</p>	<p>Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006). They should understand that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).</p>
Topic / Autumn Two Builds on Y3 topic on Forces and Magnets.	<p>Forces</p> <p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</p> <p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	<p>Measure the weight in Kg and Newtons of objects and describe how gravity works.</p> <p>Children to make a parachute and test air resistance using different variables, children to make a boat and check variables for streamlining, children to use different materials to check friction of different.</p> <p>Children to make a machine which includes pulleys, levers and gears.</p>	<p>Friction, forces, push, pull, gravity, air resistance, water resistance, mechanisms.</p>
Topic / Spring One	Living things and their habitat	<ul style="list-style-type: none"> Observe and sketch insect and amphibian lifecycles for comparison (observing over time) 	<p>Seeds, stem and root cuttings, tubers, bulbs.</p>

<p>Builds on Y1 – Animals topic, Y2 and Y4 Living things and their habitat topics.</p>	<p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p>	<ul style="list-style-type: none"> • Research and sketch mammalian and bird life cycles for comparison (analysing secondary sources) • Compare the lifecycles of mammals, amphibians, insects and birds (pattern seeking) Show in a venn diagram. • Research reproduction in plants and animals (analysing secondary sources/pattern seeking). Create computer animations that explain plant reproduction (analysing secondary sources) • Create computer animations that explain animal reproduction (analysing secondary sources) <p>Extended writing opportunity</p> <p>Chronological report: write up the life cycle of an insect, amphibian, mammal, bird or plant for a class information book.</p> <p>Biography: research a significant naturalist or animal behaviourist and create a poster that showcases their life, achievements and significance.</p>	
<p>Topic / Spring Two</p> <p>Builds on from Y1, Y2 and Y4 Materials topics.</p>	<p>Properties and changes of materials</p> <p>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.</p> <p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p>	<ul style="list-style-type: none"> • Investigate hard materials suitable for food prep (exploring) • Investigate thermal insulating properties of materials to keep refreshments hot or cold (exploring/fair testing). Investigate possible food packaging materials (exploring/fair testing) • Investigate the absorbency of materials suitable for cleaning with (exploring/fair testing) • Investigate electrical insulators/conductors for health and safety purposes (exploring/pattern seeking/fair testing) • Investigate materials that combine soundproofing with comfort (exploring/fair testing). • Compare properties of solids, liquids and gases (exploring) • Investigate mixing materials (exploring) Investigate separating materials (exploring) • Make new materials (exploring) Investigate irreversible changes (exploring) • Present findings in the form of an education pack for the Science Museum (pattern seeking) <p>Extended writing opportunity</p>	<p>Reversible changes, including, evaporating, filtering, sieving, melting and dissolving, irreversible changes, including, burning and rusting.</p>

	<p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>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.</p>	<p>Recount: Write to stall holders and explain your investigation into the insulating properties of a range of materials and make recommendations of materials to store hot drinks and ice cream.</p> <p>Non-chronological writing: Create and write a report that identifies the best materials for ear defenders, based on your data and understanding of materials.</p>	
<p>Topic / Summer One</p> <p>Builds on Y1 – Animals topic, Y2 and Y4 Living things and their habitat topics.</p>	<p>Animals including humans</p> <p>Describe the changes as humans develop to old age.</p>	<ul style="list-style-type: none"> • Create a human timeline (analysing secondary sources) • Create a human growth quiz (analysing secondary sources/pattern seeking) • Research and create an infographic on baby growth (analysing secondary sources) • Compare 'red books' and predict growth patterns (pattern seeking/observing over time) • Create gestation period graphs for a range of animals (analysing secondary sources) • Explain gestation through graphic novel style (analysing secondary sources) <p>Extended writing opportunities</p> <p>Non-fiction various: write sections for their non-fiction book on the human lifecycle e.g. 'things to expect in old age', 'key physical and emotional changes during puberty' etc.</p>	
Topic / Summer Two	Scientists and Inventors	Sir David Attenborough - Animals	
Year 6			
<p>Topic / Autumn One</p> <p>Builds from Y4 topic on Electricity.</p>	<p>Electricity</p> <p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p>	<p>Identify prior knowledge by completing an electrical quiz containing elements from prior curriculum learning and some knowledge due to be taught throughout this unit.</p> <p>Match circuit symbols to vocabulary. Use them to draw circuits where components and circuit contents are given by name only.</p>	<p>Switches, bulbs, buzzers and motors.</p> <p>Series circuits, , not parallel circuits.</p>

	<p>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.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>	<p>Investigate the effect of increasing and decreasing voltage on components. Use batteries of different sizes and quantities within circuits to judge the effect on components such as buzzers, motors and bulbs.</p> <p>Plan, carry out and evaluate an experiment to test the effect of components within series and parallel circuits when the voltage is increased/decreased. What effect would this have in real life?</p>	
<p>Topic / Autumn Two</p> <p>Builds on from Y3 Light topic.</p>	<p>Light</p> <p>Recognise that light appears to travel in straight lines.</p> <p>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.</p> <p>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.</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>	<ul style="list-style-type: none"> Investigate a range of simple light challenges (planning/fair testing/exploring) Investigate and demonstrate that light travels in straight lines (exploring) Investigate shadows and how they change as a result of light sources (Fair testing/exploring/pattern seeking) Investigate how light reflects (make a periscope) (exploring/problem solving) Explore split light (finding 'rainbows') (exploring) Investigate coloured light mixing (exploring/problem solving) <p>Extended writing opportunity</p> <p>Explanations: report and present findings from your light enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in written report.</p> <p>Journalistic writing: write up the crime enquiry and final court proceedings, as if for a local newsletter.</p>	<p>Light sources, reflection and shadows.</p>
<p>Topic / Spring One</p> <p>Builds on from Y1 topic – Ourselves and Y3 topic Rocks and Soil.</p>	<p>Evolution and Inheritance</p> <p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Recognise that living things produce offspring of the same kind, but normally</p>	<p>Identify inherited characteristics in living things.</p> <p>Know that variation occurs within offspring as well as across a species. Play class Guess Who and note characteristics that are inherited. Identify variations between themselves and a classmate. Create dog breed Top Trumps cards, noting variation across breeds. Use observed characteristics and simple dominant and recessive genes model to 'breed' dogs.</p>	<p>Evolve, offspring</p>

	<p>offspring vary and are not identical to their parents.</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	<p>Research variation and adaptation across specific animals and plants (local and global). Identify advantages and disadvantages of certain characteristics. Describe physical regions and their wildlife. Investigate variation across specific animals and plants. Identify subtle adaptations to environments in the animal and plant world. Identify advantages and disadvantages of certain characteristics.</p> <p>Suggest how some animals and plants are adapted to extreme environments. Design an animal and a plant that should thrive and survive in a given environment. Understand the implications of key physical aspects of an environment for living things. Play 'Extreme Survivor' to see which creatures and plants survive in given environments. Suggest how animals and plants are adapted to extreme environments. Design an animal and a plant that should thrive and survive in a given environment.</p> <p>Recognise the role fossils have in the development of evolutionary theory. Learn more about the work of Anning, Darwin and Wallace. Research the life and work of Anning, Darwin or Wallace and share as a presentation. Use given evidence to attempt to back up evolutionary ideas, presenting logical findings. Play fossil 'what if'.</p> <p>Examine how the fossil record helps us understand evolutionary relationships. Understand what a cladogram is and how it shows evolutionary relationships. Explore online the evolution of flight in birds through the fossil record. Create a cladogram using modern animals.</p> <p>Research and present evolutionary information on a specific animal. Write a traditional tale based on the Just So stories format. Write a 'Just So' story about a living creature and a distinguishing characteristic. Explain scientifically how a given creature has evolved in terms of a specific characteristic.</p>	
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<p>Topic / Spring Two</p> <p>Builds on from Living things and their habitat from Years 1, 2, 4 and 5.</p>	<p>Living things and their habitat</p> <p>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p>	<p>Children act as taxonomists to classify animals for a new zoo, by sorting and grouping the animals on the differentiated Zoo Animals List, using the differentiated Zoo Classification Activity Sheet as a guide. Identify other ways to sort and group the animals based on their similarities and differences – can the children think of way to display the information?</p> <p>Children choose one of the living things from the list on the Lesson Presentation. Children use books or the Internet to research the living thing and complete the Classifying Species Activity Sheet showing how the species is classified at each level of the standard system. Children give the scientific name of their chosen living thing using the genus and the species.</p> <p>Describe the discovery of the platypus. Children use the Platypus Diagram to discuss its characteristics and the groups of animals that these characteristics are usually associated with. Children then design a new creature and accompanying fact file. Ensure that children understand that their creature should exhibit characteristics of a particular group of animals, so that their partner can classify it correctly later.</p> <p>Describe the helpful and harmful uses and effects of microorganisms. Point out the Microorganism Names stuck around the room. Show children a Helpful or Harmful Card. Children have 10 seconds to decide which type of microorganism is responsible for the example shown on the card, before moving to stand under the name of the correct Microorganism Name. Repeat with each card.</p> <p>Children plan, carry out and evaluate a mould investigation with a variable of their choice.</p> <p>Explain how Microorganisms are classified. Children talk to their partner about the cells shown on the Lesson Presentation, and attempt to identify which is a fungus cell and which is a bacterium cell. Children use different colours of play dough to sculpt their own single-celled Microorganism in a petri dish.</p>	<p>Micro-organisms, Taxonomist, classification, species</p>
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		Children work in pairs to identify living things in the habitat around their school. Remind children not to touch or eat any of the organisms they find. Children to correctly classify plants and creatures found within the school habitat and create a guide for others to use in future.	
Topic / Summer One Builds on from Y2, Y3 and Y4.	<p>Animals including humans Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p>	<ul style="list-style-type: none"> • Heart rates and physical exertion - a dramatic representation (observing over time/fair testing/exploring/pattern seeking) • Circulatory system sculptures (analysing secondary sources/pattern seeking) • Heartbeat sound installation (fair testing/exploring/pattern seeking) • Understanding the human body through history (analysing secondary sources) • Documentary on diet, exercise, drugs and lifestyle (fair testing, analysing secondary sources) • Plotting the journey of water and food (exploring/analysing secondary sources) <p>Extended writing opportunity Information/ explanation text: create an information leaflet, for a doctor's surgery, explaining the composition of blood and the role it has to play in the human body. Information text: create a booklet that describes the impact of drugs and alcohol on the human body. Descriptive writing: collect words to describe the impact on their bodies of physical exertion and use these to write a short passage describing how you might feel if being chased / trying to win an important race / preparing to go on stage.</p>	Skeletal, muscular, digestive system and circulatory system.
Topic / Summer Two	Scientists and Inventors	Benjamin Franklin – Electricity.	