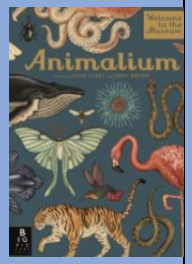
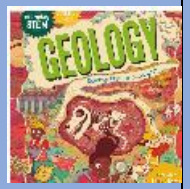
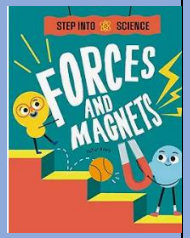
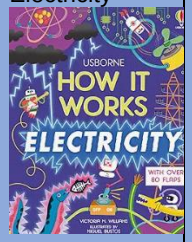
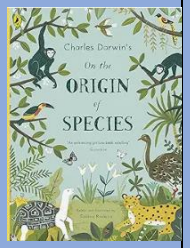
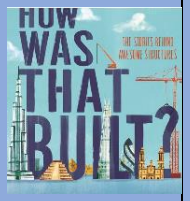
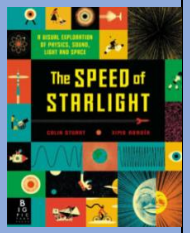
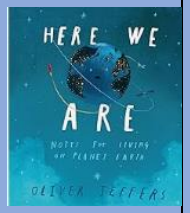
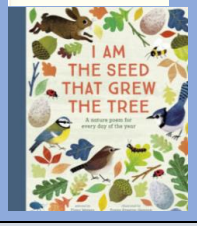
MTP Autumn 2024-2025		Engages with Debate	Topic	Vocabulary	Objectives	Scientific Enquiry	Scientific Enquiry
KS1	Autumn 1	What would you invent to keep humans safe from germs? 	Animals including humans (Yr2) 	Develop Adult Life cycle Offspring Survival Young Diet Disease Germs Nutrition Pulse Healthy Exercise Hygiene	Animals including humans (Yr2) -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	**Can we stop germs from spreading?** Ask simple questions about germs and find out answers from books and the internet and testing. Perform a simple test where children have glitter mixed with washing up liquid on their hands. Later they will observe the glitter around the room.	Use their observation and ideas to suggest answers to questions. Come to conclusions about their observations of the glitter around the room.
	Autumn 2	Were the Three Little Pigs good builders? 	Everyday materials (Yr1 and 2 	Object Material Hard Soft Stretchy Shiny Dull Rough Smooth	Children are able to: -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	Is an umbrella made of glass a good idea? Ask simple questions and recognise they can be answered in different ways. Children ask questions about the strength and function of a chosen item to help them think about the qualities their material needs to have.	Perform simple tests Test materials using different criteria to find the most suitable one for the job. Gathering and recording data to help answer questions Record how each material coped with each criteria to help draw conclsuions.

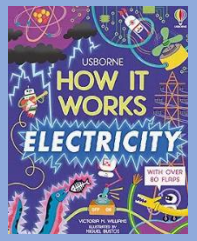
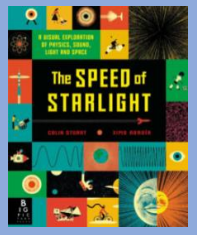
LKS2	Autumn 1	What makes a rock valuable?	Rocks 	Igneous rock Sedimentary Metamorphic Magma Lava Sediment Permeable Impermeable Fossilisation Palaeontology Erosion	Children learn to: -compare and group together different kinds of rocks on the basis of their appearance and simple physical properties -describe 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.	**Are all rocks as hard as each other?** Create ways to test the hardness of different rocks E.g. sandpaper. Classify rocks based on their tests	Record findings in their own way. Attempt to place rocks in order of hardness. Raise further questions from results such as the question, do rocks stay the same forever?
	Autumn 2	What falls faster?	Forces and Magnets 	Forces Friction Surface Magnet Magnetic Magnetic field Poles Repel Attract	Children learn to: - 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.	**What would make the best parachute?** Children plan to make and test 3 parachutes and decide on variables. Children drop parachutes and record measurements.	Children record data and results on a graph. Use results to come to conclusions about what makes the best parachute.
UKS2	Autumn 1	If electricity is so dangerous should we still use it?	Electricity 	Circuit Symbol Cell/battery Current Amps Voltage Resistance Electrons	**Children learn to:** -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.	**Can you build a safe useful circuit?** Children decide on the circuit they would like to make and make a plan. They draw their circuit using the correct symbols.	Make an advertisement to promote their electrical product

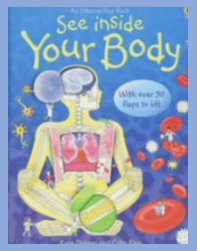
	Autumn 2	Are there any organisms we shouldn't genetically engineer? 	Evolution and inheritance  	Offspring Inheritance Variations Characteristics Adaptation Habitat Environment Evolution Natural selection Fossil Adaptive traits Inherited traits	**Children learn to:** -Recognise that living things have 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	**Could animals from the Galapagos Island live anywhere else?** Plan an enquiry to find out which animals live in the Galapagos Islands and their survival needs. Look at whether these animals live anywhere else. Have they adapted?	Make conclusions about how these animals came to be on the Galapagos Islands and how they have adapted to environments. Back up theories using scientific evidence.

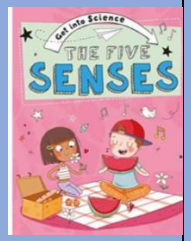
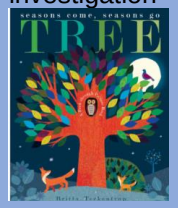
MTP Spring 2024-2025		Engages with Debate	Topic	Vocabulary	Objectives	Scientific Enquiry	Scientific Enquiry
KS1	Spring 1	Were the Three Little Pigs good builders? 	Everyday materials (Y1 and Y2) 	Material Properties Smooth Build Suitability Waterproof Absorbent Transparent Opaque Squashing Twisting Stretching	Children learn to: 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.	**Which materials would improve the strength of a building?** Observing closely using equipment Look closely at the different materials using equipment such as magnifying glasses.	Identify and classify Group materials based on things such as their properties and best materials for building. Perform simple tests Test the strength of different materials https://grammarsaurus.co.uk/portal/2020/01/year-2-science-uses-of-everyday-materials-lesson-3-investigation/
	Spring 2	Do big plants come from big seeds? 	Plants (Yr 1 and 2) https://grammarsaurus.co.uk/portal/?s=jack+and+the+beanstalk+year  	Wild plants Garden plants Weeds Deciduous Seed Bulb Sunlight Temperature Nutrients Roots Stem Leaves Flowers Petals Fruit	**Children learn to:** -identify and name a variety of common wild and garden plants, including deciduous and evergreen trees -identify and describe the basic structure of a variety of common flowering plants, including trees **Children learn to:** -observe and describe how seeds and bulbs grow into mature plants -find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	Does the size of the seed affect the size of the plant? Observe closely, using simple equipment. Look closely at different plants in the environment. Cut up a plant to see what is inside. Look closely at a variety of seeds and bulbs. Watch plants grow from bulbs and seeds.	Identify and classify Group plants in different ways Group seeds and bulbs Use their observations and ideas to suggest answers to questions. Plant some bulbs and a selection of seeds What do children notice about them as they grow?
LKS2	Spring 1	How do we hear?	Sound 	Vibration Soundwave Volume Amplitude	Children learn to: -identify how sounds are made, associating some of them with something vibrating	How far away can we hear noise? Asking simple	Performing simple tests Set up a simple test.

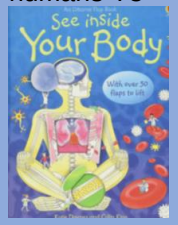
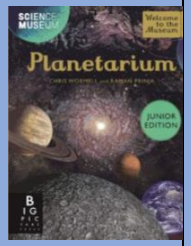
	Spring 2			Pitch Ear Particles Distance Soundproof Absorb Vacuum Eardrum	-recognise that vibrations from sounds travel through a medium to the ear - find patterns between the pitch of a sound and features of the object that produced it -find patterns between the volume of a sound and the strength of the vibrations that produced it	questions Ask questions about the senses. Know how to find answers to their questions in a range of ways Eg internet, books, testing.	Find the answer to a question by testing how far away they can hear noises. Record their results. Using their observations to suggest answers Use their observations and test results to reach a conclusion.
UKS2	Spring 1	What is the most important animal of all?  	Living Things and their habitats Y5  	Characteristics Classify Mammal Amphibian Insect Bird Taxonomist Key Bacteria Viruses Fungi Microorganism Microscope Species	Living things and their habitats (Yr5) -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.	**Why do some animals only live in certain parts of the world?** Research different species that rely on their habitats and can only survive there using books and the internet. Report on findings from their enquiries, including oral and written explanations, displays or presentations of results and conclusions.	
	Spring 2						

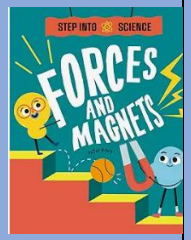
MTP Summer 2024-2025		Engages with Debate	Topic	Vocabulary	Objectives	Scientific Enquiry
KS1	Summer 1	How do seeds grow? 	Plants (Y1 and Y2) 	Wild plants Garden plants Weeds Deciduous Seed Bulb Sunlight Temperature Nutrients Roots Stem Leaves Flowers Petals Fruit	**Children learn to:** -observe and describe how seeds and bulbs grow into mature plants -find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	Plant various plants Decide on the variable to monitor. Amount of growth, colour etc. Make a series of observational drawings to show what is happening to the plants over the 4 weeks. Explain what happened to the plants and draw conclusions
	Summer 2					

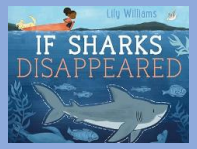
LKS2	Summer 1	What is Electricity? 	Electricity 	Electricity Generate Renewable Non-renewable Appliances Circuit Battery Series Bulb Cell Switches Buzzer Insulator Conductor	**Children learn to:** identify common appliances that run on electricity - construct a simple series electrical circuit, identifying 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 - recognise some common conductors and insulators, and associate metals with being good conductors.	**Do all materials conduct electricity?** Set up a comparative test. Children test different items in a circuit to see if they are conductors or insulators and use this to help them answer the question.	Test different materials in a circuit to see if they are conductors or insulators. Use a table and then a Venn diagram to show results. SE8 What similarities were there between all the conductors? Use their findings to help answer the question
	Summer 2	Does light only travel in straight lines? 	Light 	Light Dark Light source Reflection Reflect Reflective Ray Pupil Retina Shadow Opaque Translucent Transparent	**Children learn to:** -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	**Can you make light bend?** Set up an investigation to explore how mirrors allow light to travel round corners (plain, convex, concave)	Attempt to make light move through a simple maze Explain reasons for the placements of mirrors and use conclusions to help answer the big question

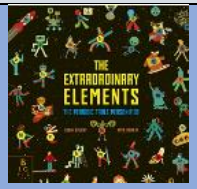
UKS2	Summer 1	Are all mammals pregnant for the same amount of time? 	Animals incl. Humans Yr 5 	Fertilisation Reproduce Sexual - reproduction Life cycle Adolescence Puberty Menstruation Adulthood Life expectancy	**Children learn to:** - describe the changes as humans develop to old age. Describe the reproduction od animals including humans.	**How quickly does a human baby develop in the womb compared with different animals?** Research online and record measurements of a baby and an animal at different stages of development. Present findings by creating a presentation.	Plan which animal gestation periods to compare with a human. Use scientific research from the internet to get measurements and timings of different animals and babies.
	Summer 2	Is it ever really dark? 	Light 	Light source Reflection Incident ray Reflected ray The law of reflection Refraction Visible Spectrum Prism Shadow Transparent Translucent Opaque	**Children learn to:** - 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.	**Can the size of a shadow be changed?** Measure the width or length of the shadow cast when a light source is at a range of distances. Record results in a table and then on a graph.	After getting a few results, children predict what the size of the next shadow will be. Use results to look for similarities, differences and patterns in data. Measure the size of the shadow cast when a light source is at a range of distances

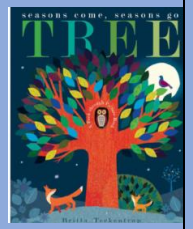
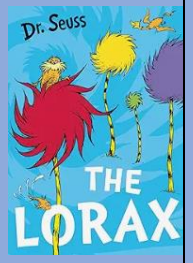
MTP Autumn 2025-2026		Engages with Debate	Topic	Vocabulary	Objectives	Scientific Enquiry	Scientific Enquiry
KS1	Autumn 1	Which sense is the most important in animals? 	Animals incl. Humans (Y 1) 	Develop Adult Life cycle Offspring Survival Young Diet Disease Germs Nutrition Pulse Healthy Exercise Hygiene	**Children learn to:** -identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals -identify and name a variety of common animals that are carnivores, herbivores and omnivores -describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) -identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	**What would happen if all the animals of the world were on Noah's Ark?** Observe closely Look closely at a range of different animals. Identifying and classifying Group animals based on different criteria – e.g. appearance, diet and habitat	Using their observations and ideas to suggest answers to questions. Answer the enquiry question giving reasons.
	Autumn 2	Why do the leaves fall from trees? 	Seasonal change (Y1 – autumn and winter) Materials investigation 	Seasons Spring Summer Autumn Winter Weather Daylight Change Night Plants Leaves	**Children learn to:** -observe changes across the 4 seasons -observe and describe weather associated with the seasons and how day length varies	**Is weather the same in Norfolk?** Observe and record the weather in Reedham and Winterton for a week. Follow weather in Winterton – checking in with KS1 to collect weather reports. Report on findings from their enquiries, including oral and written explanations, displays or presentations of results and conclusions. **Materials investigation** - identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses	

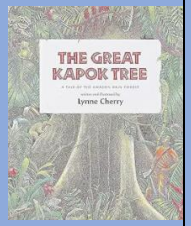
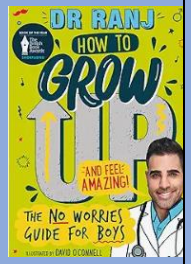
LKS2	Autumn 1	How is a human being like an ecosystem? 	Animals including humans Y3 	Vertebrate Invertebrate Muscles Tendons Joints Healthy Nutrients Energy Saturated fats Unsaturated fats Producer Predator Prey Herbivore Carnivore Omnivore Digest Oesophagus Stomach Rectum Small intestine Large intestine	**Children are able to:** - 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.	**Which drinks cause the worse tooth decay?** Place 5 boiled eggs in 5 different drinks and leave for a few days. Orange juice, milk, cola, apple juice, water. Discuss fair testing. Make observations and record in a table for 5 days.	Record findings using simple scientific language, drawings, labelled diagrams, keys and tables. Make a poster to put up in school to praise awareness of healthy drink choices. **What drink would you invent?**
	Autumn 2		Animals including humans Y4		Children are able to: - 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.		
UKS2	Autumn 1	If the Earth spins, why are we not dizzy? 	Earth & Space 	Sun Star Moon Planet Sphere Spherical bodies Satellite Orbit Rotate Axis Geocentric model Heliocentric model Astronomer	**Children learn to:** -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.	**How does the moon appear to change shape?** Children keep a moon diary over a period of time (at least a couple of weeks) and then discuss their findings. Each night record the shape of the moon they see, what the weather conditions are like and the time of evening.	Use the results to predict the next lunar cycle. Children use scientific evidence to help them understand that the moon do es not change shape like their evidence suggests.

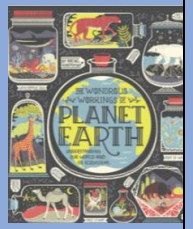
	Autumn 2	What are the similarities and differences forces? 	Forces 	Forces Gravity Gravitational pull Weight Mass Friction Air resistance Water resistance Buoyancy Streamlined Mechanism Upthrust	**Children are able to:** -explain that unsupported objects fall towards the Earth because of the force of 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.	**Can we predict which objects will attract to a magnet?** Test to see which materials/objects will prevent a paperclip being magnetised to a magnet. Test 10 different objects/materials. Place different materials between a magnet and a paperclip.	Predict then test each material/ object and record in a table. Use a table to record results. What similarities/ differences are there between the sorted materials?

MTP Spring 2025-2026		Engages with Debate	Topic	Vocabulary	Objectives	Scientific Enquiry	Scientific Enquiry
KS1	Spring 1	What would happen if there were no sharks? 	Living things and their habitats (Y2) 	Amphibians Birds Fish Mammals Reptiles Living Dead Life processes Habitat Depend Carnivore Herbivore Omnivore Food chain Food sources	**Children learn to:** -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 microhabitats -describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.	Research food chains using books and the internet. Discuss the question to draw conclusions Report on findings from their enquiries, including oral and written explanations, displays or presentations of results and conclusions.	
	Spring 2						
LKS2	Spring 1	What makes water so special? 	States of Matter 	States of matter Solids Liquids Gases Water vapour Melt Freeze Evaporate Condense Precipitation	**Children learn to**: -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.	**Do Materials have different melting points?** Set up a test to find out the melting point of different materials. Test 3 different materials, ice, chocolate, butter. Predict then take the temperature of each melting point using a thermometer. Record the temperatures.	Children to think of other materials that might have similar melting points because they have similarities. e.g. lard/butter, ice cream/ice Children look for similarities, differences and patterns in data. Children research the melting points of the materials that they suggested could have similar melting points.
	Spring 2						
UKS2	Spring 1	How is the Periodic Table important for all of science	Properties and changes in materials Y5	Materials Solids Liquids Gases Melting	Properties and changes of materials (Yr5) -compare and group together everyday materials on the basis of their properties, including their hardness, solubility,	**Can you dissolve all solids in liquids?** Children predict which solids will dissolve in water.	

	Spring 2	and not just chemistry?  		Freezing Solution Reversible Changes of state Mixture Filtering Evaporating Condensing Conductor Insulator Transparency Solubility Magnetic	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.	Children carry out fair tests using variables. Record results using an appropriate graph Use results to draw conclusions about their predictions

MTP Summer 2025 - 2026		Engages with Debate	Topic	Vocabulary	Objectives	Scientific Enquiry	Scientific Enquiry
KS1	Summer 1	What happens in spring?	Seasonal changes (Y1 – Spring, summer and summery) 	Seasons Spring Summer Autumn Winter Weather Daylight Change Night Plants Leaves Seeds	**Children learn to:** -observe changes across the 4 seasons -observe and describe weather associated with the seasons and how day length varies	**Is weather the same in Norfolk and _____?** Observe and record the weather in Reedham and _____ for a week. Follow weather in _____– checking in with KS1 to collect weather reports. Report on findings from their enquiries, including oral and written explanations, displays or presentations of results and conclusions.	
	Summer 2	What happens in summer?			**Children learn to:** -observe changes across the 4 seasons -observe and describe weather associated with the seasons and how day length varies		
LKS2	Summer 1	Where would you rather live in a world with no animals or a world without plants?	Living Things and their Habitats 	Organisms Life processes Respiration Sensitivity Reproduction Excretion Nutrition Habitat Extinct Environment Endangered species Classification Vertebrates Invertebrates Specimen Characteristic	**Children learn to:** -recognise that living things can be grouped in a variety of ways - explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment -recognise that environments can change and that this can sometimes pose dangers to living things.	**Can you create a classification key for some pond animals?** Children to plan how to find out which creatures are in the pond.	Use identification charts to identify and record the creatures they find in the pond. They then put them into their own classification Key.

	Summer 2	What would happen if the sun stopped shining? 	Plants (Y3) 	Roots Stem Leaves Lowers Sunlight Water Nutrient Evaporation Fertilisation Petal Stamen Sepal Pollination Germination Seed dispersal	**Children learn to:** -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	Can plants grow without soil? Plant the following plants in both soil and sand and observe, a cactus, a tomato plant and cress. Observe the plants over a 4 weeks period. Decide on variables to monitor, amount of growth, colour. Make a series of observational sketches to show what is changing over the 4 week period. Explain what happened to the plants and draw a conclusion	How do plants transport water? Place flowers in coloured water and observe the change in colour of the petals Create an experiment to blend the colours to see if a flower will absorb the colours together e.g. blue and yellow to make the petals go green or will some go blue and some go yellow? Report on findings from their enquiries, including oral and written explanations, displays or presentations of results and conclusions.
UKS2	Summer 1	What happens to humans as they get older? 	Animals Including Humans Y6 	Puberty Menstruation External genitalia Vulva Vagina Penis Testicle Human reproduction Conceive Hormones Online Safety circulatory system heart blood vessels blood	**Children learn to:** -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.	- Know the importance of keeping clean and how to maintain hygiene - Know how to keep safe on line and where to report concerns about your own or someone else's personal safety. - Know how the process of puberty relates to human reproduction	- Name the main parts of the body including external genitalia (vulva, Vagina, Penis, testicles) - Know the changes in females (menstruation, menstrual cycle and menstrual wellbeing) - Know how babies are conceived and are born

	Summer 2	How do we classify animals?	Living Things and their habitats 	Characteristics Classify Mammal Amphibian Insect Bird Taxonomist Key Bacteria Viruses Fungi Microorganism Microscope Species	**Children learn to:** 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 - give reasons for classifying plants and animals based on specific characteristics.	Is Strumpshaw Fen only home to squirrels and birds? Go on a trip to your chosen forest to look at all the different wildlife that live there. Document what you find at the forest through photographs, drawings etc.	Group animals by where they live in the forest. Create a diorama (a 3d model of a landscape) showing the different layers of the forest and the animals that live in different places; on the forest floor, in the tree trunks, on top of the trees.