

	Autumn	Spring	Summer			
EYFS A	Understanding the World (The Natural World) Exploring materials, observing, asking questions and making predictions					
	Materials Goldilocks and the Three Bears	Environment Polar Regions	Plants Plants and Growing	Animals The Zoo	Environment and Animals Under the Sea	Plants Jack and the Beanstalk
	Similarities and differences of materials. Explore the natural world around me.	Care and concern for the environment; beginning to understand the natural world. Understand the important processes and changes in the natural world around them, including seasons and changing states of matter.	Observe plants and discuss changes. Explore the natural world around me, making observations and drawing pictures of animals and plants.	Growth, change, importance of health and introducing habitats. Know similarities and differences between the natural world around me and contrasting environments, drawing on my experiences and what has been read in class.	Revisit & revise key elements of previous two areas	Revisit & revise key elements of the previous areas
EYFS B	Understanding the World (The Natural World) Exploring materials, observing, asking questions and making predictions					
	Materials The Three Little Pigs	Environment Space and Light and Dark	Environment Weather	Animals Mini Beasts	Materials Three Billy Goats Gruff	Animals and Environment Seaside
	Similarities and differences of materials. Explore the natural world around me.	Care and concern for the environment; beginning to understand the natural world. Understand the important processes and changes in the natural world around them, including seasons and changing states of matter.	Revisit & revise key elements of previous area	Growth, change, importance of health and introducing habitats. Know similarities and differences between the natural world around me and contrasting environments, drawing on my experiences and what has been read in class.	Revisit & revise key elements of the previous area	Revisit & revise key elements of the previous two areas
Year 1/2 A	Plants - Biology	Seasons - Physics	Plants & Seasons	Animals Including Humans - Biology	Everyday Materials – Physics and Chemistry	Animals Inc Humans & Everyday Materials
	Vocabulary Tier 2 – bug, trunk, branch, bark, seed, wild. Tier 3 – minerals, stem, deciduous, evergreen	Vocabulary Tier 2 – dawn, dusk, mild, rotate, soaked, weather. Tier 3 – month, season, spring, summer, autumn, winter.		Vocabulary Tier 2 – blood, senses, young, feathers, fur, scales. Tier 3 – mammal, amphibian, reptile, herbivore, carnivore, omnivore.	Vocabulary Tier 2 – absorb, rough, smooth, waterproof, metal, plastic. Tier 3 – materials, properties, flexible, transparent, opaque, physical.	
	Parts of plants and trees & identifying wild & common plants. 1. What are the parts of a plants? 2. What are wild plants and where do you find them? 3. What are garden plans and where do you find them? 4. What makes a tree?	Seasons & weather 1. What are the four seasons? 2. What's the weather like in Autumn, Winter, Spring and Summer? • Observe changes across the four seasons.	Revisit & revise key elements of previous two areas	Grouping & comparing animals, their diets & exploring senses. 1. What is an animal? 2. What types of animals are there? (mammals/birds) 3. What types of animals are there? (amphibians/reptiles/fish) 4. What is similar and what is different?	Types of materials, what things are made of & simple properties. 1. What are materials? 2. What are things made of in school? 3. How can I describe materials?	Revisit & revise key elements of previous two areas

	<p>5. What types of tree are there? 6. What's the difference between trees?</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Observe and describe weather associated with the seasons and how day length varies. 		<p>5. What does food tell us about an animal? 6. What makes me an animal? What senses do I have?</p> <ul style="list-style-type: none"> 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. 	<p>4. Which materials are waterproof and which are not? 5. Which materials are transparent and which are opaque? 6. What's the best material for the job? Why?</p> <ul style="list-style-type: none"> 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. 	
	Working scientifically		Working Scientifically			
	<ul style="list-style-type: none"> Can sort and group parts of plants using similarities and differences eg leaf shape, flower colour. Can use simple charts and venn diagrams to identify and classify plants. Use photographs and their own observations to talk about how plants change over time (deciduous and evergreen trees, fruit-bearing trees) Plant seeds and observe how they grow and change by making simple observations. Name the parts of a plant. 	<ul style="list-style-type: none"> Ob Gather and record data about weather conditions in each season, drawing on observation and using simple equipment (eg containers to collect rainfall). Use data to create a pictogram and use this to describe changes in day length over the seasons. Gather data about day length regularly throughout the year to compare seasons. Use their evidence to describe some other features of the weather, surroundings, themselves, animals and plants found in different seasons. <p>serve & collect data about weather</p>		<ul style="list-style-type: none"> Compare the structure of two animals from the same or different groups eg. Wings, feathers, vertebrates/invertebrates. Classify animals using a range of features eg lays eggs, give birth to live young, carnivore, herbivore, omnivore. Identify animals by matching statements to names images. Take measurements of parts of the body and present results in a table to interpret. Conduct simple sense experiments – which part of my body is not good for feeling? Which food/flavours can I identify by taste? 	<ul style="list-style-type: none"> Compare and group together everyday materials based on their physical properties. Classify objects made of one material eg. Group of objects made of metal. Use their test evidence to answer the questions about properties e.g. which cloth is the most absorbant? Test the properties of objects eg waterproofness of shelters. 	
Year 1/2 B	Living Things & Their Habitats - Biology	Animals Including Humans - Biology	Living Things & Their Habitats & Animals Inc Humans	Plants - Biology	Everyday Materials – Physics and Chemistry	Plants & Everyday Materials
	Vocabulary Tier 2 – thrive, depend, producer, consume, prey, predator.	Vocabulary Tier 2 – healthy, survive, exercise, heart, lungs, muscles. Tier 3 – hygiene, larva, pupa, vertebrates, invertebrates,		Vocabulary Tier 2 – wither, dormant, mature, bulb, anchor, sustain.	Vocabulary Tier 2 – artificial, brittle, extracted, fabric, manufactured, natural.	

Tier 3 – oxygen, nutrient, minerals, sensitivity, reproduction, excretion				Tier 3 – ceramic, durable, inflexible, reflective, rigid, translucent.	
<p>Living & non-living, location & connection of living things.</p> <ol style="list-style-type: none"> 1. What is alive and what is not? 2. What do all living things have in common? 3. Where do plants and animals live? 4. What plants and animals live in our local environment? 5. What are food chains? How are they connected? 6. Why do plants and animals need each other? <ul style="list-style-type: none"> • Explore and compare the differences between things that are living, dead, and things that have never been alive • Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other • Identify and name a variety of plants and animals in their habitats, including micro-habitats • Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food 	<p>How humans & animals change & mature and what they need to survive and stay healthy.</p> <ol style="list-style-type: none"> 1. Remember: What is an animal? 2. How do animals change as they mature? 3. How do we change as we mature? 4. What do all animals need to stay alive? 5. Keeping healthy: Why do we exercise? 6. Keeping healthy: Why do we eat different types of food? <ul style="list-style-type: none"> • 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. 	<p>Revisit & revise key elements of previous two areas</p>	<p>Grow healthy plants from seeds and bulbs.</p> <ol style="list-style-type: none"> 1. How do seeds grow and what happens? 2. What happens when bulbs sprout? 3. What do plants need to thrive and be healthy? 4. What can happen if plants don't get the things they need? 5. What do I notice about plants around the school? How are they healthy? How are they unhealthy? 6. How do seeds and bulbs grow? What do plants need to be healthy. <ul style="list-style-type: none"> • 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. 	<p>Categorise & compare materials. Manipulation, purpose & suitability of materials.</p> <ol style="list-style-type: none"> 7. What are materials used for? 8. What are materials used for? 9. What happens when we squash, bend, twist or stretch a material? 10. What's the right material for the job? 11. What's the most absorbent material? 12. Who invented waterproofing? <ul style="list-style-type: none"> • 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. 	<p>Revisit & revise key elements of previous two areas</p>
Working scientifically		Working scientifically		Working scientifically	
<ul style="list-style-type: none"> • Explore the outside environment regularly to find objects that are living, dead or never alive. • Observe animals and plants, drawing and labelling diagrams. 	<ul style="list-style-type: none"> • Investigate the effect of exercise on their bodies. • Classify food in a range of ways, including using the Eatwell guide. • Describe, using diagrams, the life cycles of some animals, including 		<ul style="list-style-type: none"> • Make close observations of seeds and bulbs. • Classify seeds and bulbs. • Research and plan when and how to plant a range of seeds and bulbs. 	<ul style="list-style-type: none"> • Classify and sort materials by their properties eg manmade/natural. • Investigate and observe what happens to different 	

	<ul style="list-style-type: none"> • Create simple food chains for a familiar local habitat. • Identify and classify things that are living, dead or never alive. • Can give key features that mean the animal or plant is suited to its micro-habitat. • Can explain in simple terms why an animal or plant is suited to its habitat. 	<p>humans, and their growth to adults.</p> <ul style="list-style-type: none"> • Measure/observe how animals including humans grow. • Collate what they know about looking after a baby, creating a parenting/pet owners' guide. • Explain how development and health might be affected by conditions and needs being met/not met. 		<ul style="list-style-type: none"> • Look after the plants as they grow – weeding, thinning, watering etc. • Make close observations and measurements of their plants growing from seeds and bulbs. • Make comparisons between plants as they grow. • Can spot similarities and differences between bulbs and seeds. 	<p>materials during testing.</p> <ul style="list-style-type: none"> • Investigate which materials are fit for a purpose eg which is the best material for an umbrella? • Explain from their observations how materials change when a force is exerted on them by squashing, bending, twisting and stretching. • Investigate the transparency of objects. Record data in a table. • Ask and answer questions about everyday materials. 	
	Plants - Biology	Animals Including Humans - Biology	Forces & Magnets - Physics	Light - Physics	Rocks - Biology	Revisit & Revise
Year 3/4 A	Structure of flowering plants, food & survival	Effects of diet & function of skeletons & muscles.	Contact and non-contact forces, effect of friction and magnetic forces.	How light allows us to see & how shadows can be formed and changed.	Formation & types of rocks & classification of rocks. Soil composition & fossil formation.	Revisit & revise key elements of previous areas
	<ol style="list-style-type: none"> 1. What are the parts of a flowering plant? What do they do? 2. Do all plants need the same things to thrive and grow? 3. How does water move through a plant? 4. What is pollination? <p>Identify and describe the functions of different parts of flowering plants: roots; stem/trunk; leaves; and flowers.</p> <ul style="list-style-type: none"> • 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. 	<ol style="list-style-type: none"> 1. What effect does the food we eat have? 2. Where is my skeleton and what does it do? 3. Where are my muscles and what do they do? <p>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.</p> <ul style="list-style-type: none"> • Identify that humans and some other animals have skeletons and muscles for support, protection and movement. 	<ol style="list-style-type: none"> 3. What are contact forces? 4. How do surfaces affect the motion of an object? 5. How does friction affect moving objects? 6. What is a non-contact force? How is this different to a contact force? 7. How do magnets attract and repel? 8. Which materials are magnetic? <p>Forces and magnetism summary</p> <p>Compare how things move on different surfaces.</p> <ul style="list-style-type: none"> • Notice that some forces need contact between two objects, but magnetic forces can act at a distance. 	<ol style="list-style-type: none"> 7. Do we need light to see things? Remember: what are light sources and what are not light sources? 8. How are shadows formed? 9. What happens to the size of a shadow when the object moves closer to, or away from, the light source? <p>Recognise that they need light in order to see things, and that dark is the absence of light.</p> <ul style="list-style-type: none"> • 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. 	<ol style="list-style-type: none"> 7. What types of rocks are there? 8. Is soil just dirt? What makes soil? 9. How are fossils formed? <p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <ul style="list-style-type: none"> • 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. 	

	<ul style="list-style-type: none"> Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. 		<ul style="list-style-type: none"> Observe how magnets attract or repel each other and attract some materials and not others. <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Find patterns in the way that the size of shadows change. 		
	Working scientifically					
	<ul style="list-style-type: none"> Observe the effect of putting carnations or celery in coloured water. Investigate what happens to plants when they are put in different conditions e.g., in darkness, in the cold & deprived of air. Observe seeds being blown from the trees e.g. sycamore. Research different types of seed dispersal. Explain observations made during investigations. 	<ul style="list-style-type: none"> Classify food in a range of ways. Use food labels to explore the nutritional content of a range of food items. Use food labels to answer enquiry questions e.g., how much sugar is in soft drinks. Identify and label the parts & functions of a skeleton. Compare, contrast & classify skeletons of different animals e.g., vertebrate & invertebrate. 	<ul style="list-style-type: none"> Record findings from an investigation on strength of friction & make predictions & draw simple conclusions. Compare & group materials following magnetic testing, recording findings. Answer questions about which materials are magnetic. Make & investigate predictions on whether 2 magnets will attract or repel depending on which poles are facing. 	<ul style="list-style-type: none"> Observe & identify changes to the size & orientation of shadows. Observe & identify the difference in shadows of opaque, translucent & transparent objects/materials. Investigate the size of shadows when an object moves closer to or away from a light source by tracing shadows & comparing differences. Use oral or written explanations to report on why shadows are form & how the length & size of a shadow can be changed 	<ul style="list-style-type: none"> Compare & group together different kinds of rocks on the basis of their appearance & simple physical properties. Link rocks changing over time with their properties e.g. soft rocks get worn away more easily. Presents in different ways their understanding of how fossils are formed. Identifies plant/animal matter in samples of soil. Devise a comparative test to investigate whether a rock is chalk or limestone. 	
Year 3/4 B	Animals Including Humans - Biology	States of Matter - Chemistry	Electricity - Physics	Living Things & Their Habitats - Biology	Sound - Physics	Revisit & Revise
	<p>Teeth & eating, the digestive system & food chains</p> <ol style="list-style-type: none"> What teeth do humans have? What do they do? How does our mouth and teeth help digestion? What's the process? Can teeth tell us what animals eat? What are the parts of the digestive system? What do they do? How does digestion work? 	<p>Solids, liquids & gases, melting, evaporating and condensing.</p> <ol style="list-style-type: none"> What are solids, liquids and gases? Melting: how do materials change state? Evaporating: how do materials change state? Condensing: how do materials change state? <p>Summary: how do materials change their state of matter?</p>	<p>Sources of electricity, components & effects of changing these in simple series circuit.</p> <ol style="list-style-type: none"> What appliances use electricity? What sort of power makes them work? What are the components in a simple series circuit? – what happens when a circuit is open or closed? 	<p>Characteristics of living things, vertebrates & invertebrates, plants, classification keys, environmental changes.</p> <ol style="list-style-type: none"> What animals are vertebrates? What animals are invertebrates? What groups are plants classified in? What is classification? How do I use a key? 	<p>Properties, movement, pitch and volume of sound.</p> <ol style="list-style-type: none"> What is sound? What is the pitch and loudness of sound? <p>Identify how sounds are made, associating some of them with something vibrating.</p> <ul style="list-style-type: none"> Recognise that vibrations from sounds travel through a medium to the ear. 	<p>Revisit & revise key elements of previous areas</p>

	<p>6. What's the process? 7. What are food chains How do they work? 8. How do I construct and interpret a food chain? 9. How are teeth, digestion and food chains connected?</p> <p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <ul style="list-style-type: none"> 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. 	<p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <ul style="list-style-type: none"> 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. 	<p>3. What are the effects of changing circuit components and batteries?</p> <p>Identify common appliances that run on electricity.</p> <ul style="list-style-type: none"> 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. 	<p>5. What happens if the environment in a habitat changes?</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases. 	
Working scientifically						
	<ul style="list-style-type: none"> Construct & interpret a variety of food chains, identifying producers, predators & prey. Identify differences & similarities of different types of teeth according to herbivore, omnivore & carnivore. Label a diagram of human teeth. Recreate the human digestive system & observe representation of how food travels through it. Label different parts of digestive system. <p>Set up & carry out investigation to identify substance which are harmful to teeth.</p>	<ul style="list-style-type: none"> Classify & group a range of solids, liquids & gases. Observe a range of solids melting. Investigate melting points of different solids. Observe water evaporating & condensing. Set up investigation to explore changing the rate of evaporation. 	<ul style="list-style-type: none"> Construct & investigate a range of circuits. Investigate whether materials are conductors or insulators, by setting up & carrying out simple practical enquiry. Investigate the effect of a switch in a simple circuit. Compare the differences between a complete & incomplete circuit. 	<ul style="list-style-type: none"> Explore & use classifications to help group, identify & name a variety of living things. Create a simple identification key based on observable features. Use research to explore human impacts on environment both positive & negative e.g., litter, tree planting. Create simple classification keys to identify & classify vertebrates & invertebrates. Compare 2 animal groups displaying information using Venn diagram. Classify living things found in different habitats based on their features. 	<ul style="list-style-type: none"> Explore whether sound can be seen, felt & heard from a variety of different instruments e.g., popcorn on a speaker. Identify & show how sound travels through different particles & into the ear. Investigate how the length & tightness of a string can affect the pitch of a sound made. <p>Take accurate measurements using data loggers to investigate the volume of sound in the school hall during different parts of the day.</p>	
Year 5/6 A	Animals Including Humans - Biology	Living Things & Their Habitats - Biology	Light - Physics	Electricity - Physics	Inheritance & Evolution - Biology	Revisit & Revise
	Blood & blood vessels, functions of the heart & the effects of drugs, exercise & lifestyle	Pioneering scientists, classification of vertebrates & invertebrates including micro-organisms & applying classification knowledge.	How light travels, reflection, colour & refraction. 1. How does light travel? 2. What colour is light made of?	Effects & consequences of changing voltage and components in a series circuit.	Change over time, biological change & theories of evolution.	Revisit & revise key elements of previous areas

<ol style="list-style-type: none"> 1. What is blood made of and why do we need it? 2. Why do our bodies need nutrients and how are they transported? 3. What is our circulatory system? 4. What is our heart like inside? 5. How does it work? 6. Who influenced what we know about our circulatory system? 7. What can we do to keep healthy? 8. What can we do to keep healthy? 9. Present and explain what we know about the circulatory system, nutrients and keeping healthy. <ul style="list-style-type: none"> • 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. 	<ol style="list-style-type: none"> 1. Who was the scientist Carl Linnaeus and what did he do? 2. How do we classify vertebrates? 3. How do we classify invertebrates we know? 4. How do we classify invertebrates we don't know? 5. How do we classify invertebrates we don't know? 6. Apply it: what animals can I classify? What animals and plants exist in my local environment? <ul style="list-style-type: none"> • Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. • Give reasons for classifying plants and animals based on specific characteristics 	<ol style="list-style-type: none"> 3. Reflection - how does light help us to see objects? 4. Which surfaces make the best reflectors? 5. Why do we see objects as a particular colour? 6. What happens to the appearance of objects when placed in water? <ul style="list-style-type: none"> • 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. 	<ol style="list-style-type: none"> 1. What is electricity? How does it work? How do we build and represent a series circuit? 2. What are the components in a series circuit? How does the number of cells and voltage affect components in a circuit? 3. What are the effects and consequences of changing circuit components and batteries? <ul style="list-style-type: none"> • 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. 	<ol style="list-style-type: none"> 1. How have living things changed over time? How do we know? 2. How has life evolved over time? 3. Are all offspring identical to their parents? 4. Darwin and Wallace – what evidence did they share to argue the case for evolution? 5. Survival of the fittest - how have animals adapted and evolved to suit their environment? <ul style="list-style-type: none"> • 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.
Working scientifically				
<ul style="list-style-type: none"> • Use labelled diagrams to support understanding of how nutrients and oxygen are delivered around the body. • Identify the main components of the heart. • Predict what will happen to the heart during exercise. • Conduct a fair investigation on the effects of exercise on the heart. • Use scientific equipment to track results and record data using tables and graphs. • Analyse whole class data after investigation to 	<ul style="list-style-type: none"> • Classify plants & animals & record conclusions from the use of classification keys. • Use information about the characteristics of an unknown animal or plant to assign it to a group. • Use secondary sources to learn about the formal classification system devised by Carl Linnaeus & why it is important. • Categorise, describe, sort & classify vertebrates & invertebrates. • Plan an investigation to collect, identify & observe an invertebrate from its natural 	<ul style="list-style-type: none"> • Plan & investigate how light travels. Present data & draw conclusions. • Investigate the use of mirrors to reflect light. • Use mirrors, torches and protractors to demonstrate & record how light is reflected in a mirror & how we see ourselves in a mirror. • Use a torch & visible spectrum to investigate the colours light is made of. • Plan an investigation to find out which surfaces make the best reflectors. 	<ul style="list-style-type: none"> • Draw circuit diagrams of a range of simple series circuits, using recognised symbols. • Make electric circuits and demonstrate, following investigation, how variation in the working of particular components can be changed. • Plan and select resources for a fair scientific enquiry, deciding which variables to control. 	<ul style="list-style-type: none"> • Follow lines of enquiry to support explanation of the process of evolution. • Identify whether offspring are identical to their parents. • Compare the ideas of Charles Darwin & Alfred Wallace on evolution. • Investigate how animals have adapted & evolved to suit their environment overtime.

	<p>compare and reflect on findings and draw conclusions.</p> <ul style="list-style-type: none"> Use information acquired to write a scientific report on how the human circulatory system works. 	<p>environment using magnifying glasses, pooters & other recording devices.</p>	<p>Investigate the impact of refraction on an object when placed in water.</p>	<ul style="list-style-type: none"> Record results from an experiment using tables and graphs. Evaluate and explain their investigation, results and conclusions. 		
Year 5/6 B	Living Things & Their Habitats - Biology	Properties & Changes in Materials - Chemistry	Earth & Space - Physics	Forces - Physics	Animals Including Humans - Biology	Revisit & Revise
	<p>Life cycles & reproduction of animals (mammals, amphibians, insects, birds) & plants.</p> <ol style="list-style-type: none"> Life cycle differences – what’s the difference between a mammal and an amphibian? Life cycle differences – what’s the difference between an insect and a bird? What is similar and what is different between the life cycles of a mammal, an insect, an amphibian and a bird? Summer birds – who was Maria Merion and what did she do? The science of life - how do living things reproduce? Plants and animals: what’s the life process of reproduction? <ul style="list-style-type: none"> 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. 	<p>Properties, mixtures & solutions, separation of materials, & reversible & irreversible changes.</p> <ol style="list-style-type: none"> What properties do materials have? How do we use them? What is a solution and what is a mixture? How can we separate materials from a mixture? How can we separate materials from a solution? What changes are reversible? What changes are irreversible? <ul style="list-style-type: none"> Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including 	<p>Position, relationship & movement of planets. The effect of the Earth’s rotation, tilt & orbit on day, night & seasons.</p> <ol style="list-style-type: none"> What are the planets in our solar system? How does our view of the Moon change in a lunar month? Why does the rotation of Earth result in night and day? Review and summarise - present what you know about Earth and Space <ul style="list-style-type: none"> 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. 	<p>Non-contact & contact forces, air & water resistance, levers, pulleys & gears</p> <ol style="list-style-type: none"> Remember gravity When is friction helpful and when is it not? What’s the effect of air resistance? What’s the effect of water resistance? How do levers help us? How do pulleys and gears help us? Who was Galileo Galilei? <ul style="list-style-type: none"> 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. 	<p>Life, growth & comparing human & animal lifespan.</p> <ol style="list-style-type: none"> What is the human timeline? How do we change into adults? How does human and animal lifespan compare? <ul style="list-style-type: none"> Describe the changes as humans develop to old age. 	<p>Revisit & revise key elements of previous areas</p>

		changes associated with burning and the action of acid on bicarbonate of soda.				
Working scientifically						
	<ul style="list-style-type: none"> Observe & compare life cycles of different plants & animals. Observe how plants develop tubers to grow into new plants. Recreate scientific model to represent the pollination process (Wotsits investigation) Identify which insects complete which type of metamorphosis & present findings Identify similarities & differences between the characteristics of different animal types in order to classify them. Use secondary sources to research the significance of Maria Merion. 	<ul style="list-style-type: none"> Explore adding a range of solids to water to investigate whether it is a mixture or solution. Carry out comparative & fair tests involving reversible & irreversible changes e.g. dissolving, freezing, melting & burning. Separate mixtures by sieving, filtering & evaporating, choosing the most suitable method & equipment for each mixture. Investigate rates of dissolving by carrying out comparative & fair test & record findings. 	<ul style="list-style-type: none"> Create a model to show the movement around the sun & the movement around the Earth. Create a model to show why day & night occur. Make first hand observations of how shadows, caused by the sun, change throughout the day. 	<ul style="list-style-type: none"> Investigate the pull on different objects using a Newton metre & record forces in Newtons. Report on conclusions relating to an objects mass & its weight in Newtons. Investigate the effect of friction in a range of contexts (jelly investigation). Investigate the effects of water resistance by moulding the same piece of Plasticine into different shapes to see if it sinks or floats. Investigate the effects of air resistance in a range of context e.g. running with card. Explore how levers, pulleys & gears work. Research how the work of Galileo Galilei helped to develop the theory of gravitation. 	<ul style="list-style-type: none"> Use data to compare & find patterns in animal gestation periods. Compare human & animal gestation & life span. Find similarities & differences in each stage of the human timeline.. 	

Scientific Skills

KS1

Ask simple questions & recognise that they can be answered in different ways.	Observe closely, using simple equipment.	Perform simple test.	Identify & classify	Use observations & ideas to suggest answers to questions	Gather & record data to help answer questions.
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KS2

Ask relevant questions	Set up simple, practical enquiries & comparative & fair tests.	Make accurate measurements using standard units, using a range of equipment.	Gather, record, classify & present data in a variety of ways to help in answering questions.	Record findings using simple scientific language, drawings, labelled diagrams, bar charts & tables	Report of findings from enquiries, including oral & written explanations, displays or presentations of results & conclusions.	Use results to draw simple conclusions & suggest improvements, new questions & predictions for setting up further tests.	Identify differences, similarities or changes related to simple, scientific ideas & processes.
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Working Scientifically Skills

KS1

Ask simple questions & recognise that they can be answered in different ways.	Observe closely, using simple equipment.	Perform simple test.	Identify & classify	Use observations & ideas to suggest answers to questions	Gather & record data to help answer questions.
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Lower KS2

Ask relevant questions & use different types of enquiries to answer them	Setting up simple practical enquiries, comparative & fair tests	Make systematic and careful observations, & where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions	Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts & tables	Reporting on findings from enquiries, including oral and written explanations, displays or presentation of results & conclusions	Using results to draw simple conclusions, make predictions for new values, suggest improvement & raise further questions	Identifying differences, similarities or changes related to simple scientific ideas & processes	Using straight forward scientific evidence to answer questions or to support findings
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Upper KS2

Planning different types of scientific enquires to answer questions, including recognising and controlling variables where necessary	Taking measurements, using a range of scientific equipment, with increasing accuracy & precision	Recoding data & results of increasing complexity using scientific diagrams, labels, classification keys, tables & bar & line graphs	Using test results to make predictions to set up further comparative and fair tests	Reporting and presenting findings from enquiries, including conclusions, causal relationships & explanations, of results in oral & written forms, such as displays & other presentations	Identify scientific evidence that has been used to support or refute arguments
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