



SCIENCE

WHOLE SCHOOL OVERVIEW

Biology units

Chemistry units

Physics units

Early Years Foundation Stage (EYFS)			
Nursery	Autumn 1 – Biology focus	Spring 1 – Biology focus	Summer 1 – Combined science focus
	Identify different parts of the body by pointing or orally labelling them. Identify basic features e.g. hair colour, eye colour, skin colour. Begin to talk about the season of autumn. <u>Unit Overview:</u> - Can you identify different parts of the body by pointing or orally labelling them? - Can you identify basic features e.g. hair colour, eye colour, skin colour? - Can you begin to talk about the season of autumn?	Explore different habitats. Understand the life cycle of a hen. Match farm animals to their babies. Know that farm animals produce food that we can eat / drink. Experience hatching eggs as part of the Living Eggs programme. <u>Unit Overview:</u> - Can you explore different habitats? - Do you understand the life cycle of a hen? - Can you match farm animals to their babies? - Do you know that farm animals produce food that we can eat / drink? - Have you experienced hatching eggs as part of the Living Eggs programme?	Explore natural objects using their senses. Through stories, identify the features of a plant. Know how to care for living things such as plants. Know how to care for the natural environment. Talk about different weather. Use and name some of their senses to explore the world. Explore material properties sorting them by similarities and differences. Explore how things work. Explore some technological toys (e.g. friction cars) talking about how they work. Explore changing states of matter using frozen, melted. Show an understanding of floating and sinking. <u>Unit Overview:</u> - Can you explore natural objects using your senses? - Through stories, can you identify the features of a plant? - Do you know how to care for living things such as plants? - Do you know how to care for the natural environment? - Can you talk about different weather? - Can you use and name some of their senses to explore the world? - Can you explore material properties sorting them by similarities and differences? - Can you explore how things work? - Can you explore some technological toys (e.g. friction cars) talking about how they work? - Can you explore changing states of matter using frozen, melted? - Can you show an understanding of floating and sinking?
Reception	Autumn 1 – Biology focus	Spring 1 – Biology focus	Summer 1 – Combined science focus
	Identify a range of different body parts and features. Name the senses and the associated part of the body. Show an awareness of the life cycle of a human. Identify healthy and unhealthy foods. Talk about how seasons influence animal behaviour. Identify animals who hibernate. <u>Unit Overview:</u> - Can you identify a range of different body parts and features? - Can you name the senses and the associated part of the body? - Can you show an awareness of the life cycle of a human? - Can you identify healthy and unhealthy foods? - Can you talk about how seasons influence animal behaviour? - Can you identify animals who hibernate?	Talk about how seasons influence animal behaviour. Identify animals who are hibernating. Talk about how seasons influence animal behaviours. Talk about new life and animals coming out of hibernation. Talk about the lifecycle of a frog / butterfly. Identify and name animals and their babies. Know about how day and night influences animal behaviour. Identify nocturnal and diurnal animals. Through stories and books, explore a range of habitats and know why animals are suited to their habitat. <u>Unit Overview:</u> - Can you talk about how seasons influence animal behaviour? - Can you identify animals who are hibernating? - Can you talk about how seasons influence animal behaviours? - Can you talk about new life and animals coming out of hibernation? - Can you talk about the lifecycle of a frog / butterfly? - Can you identify and name animals and their babies? - Do you know about how day and night influences animal behaviour? - Can you identify nocturnal and diurnal animals? - Through stories and books, can you explore a range of habitats and know why animals are suited to their habitat?	Explore the natural world around them. Talk about what they can hear, see and feel when outside. Make observations of plants locally / know what they need to grow. Talk about the life cycle of a plant. Identify a range of fruits and vegetables and talk about how they grow. Understand seasonal changes based on learning throughout the year as the seasons have changed. Know how to care for living things such as plants. Begin to understand changing states of matter using the terms liquid and solid when melting and freezing. Name and describe a range of materials. Talk about similarities and differences in relation to objects and materials. Know how to care for the natural environment e.g. recycling. <u>Unit Overview:</u> - Can you explore the natural world around you? - Can you make observations of plants locally / know what they need to grow? - Can you talk about the life cycle of a plant? - Can you identify a range of fruits and vegetables and talk about how they grow? - Do you understand seasonal changes? - Do you know how to care for living things such as plants? - Can you begin to understand changing states of matter using the terms liquid and solid when melting and freezing? - Can you name and describe a range of materials? - Can you talk about similarities and differences in relation to objects and materials? (Transparent, opaque, absorbent, non-absorbent, magnetic, non-magnetic, floating, sinking) - Do you know how to care for the natural environment e.g. recycling?
<u>The Early Learning Goals (ELG) for knowledge and understanding of the world aims to ensure that all pupils:</u> - Explore the natural world around them, making observations and drawings of animals and plants. - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences that has been read in class. - Understand some important processes and changes in the natural environment around them, including the seasons and changing states of matter.			



SCIENCE
WHOLE SCHOOL OVERVIEW

Biology units

Chemistry units

Physics units

Key Stage I (KSI) – Year I					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer2
What is it made from?		What are plants?		How are animals different?	
Retrieval Opportunity Nouns to describe weather. Naming the seasons.		Retrieval Opportunity Winter and associated weather. Naming the seasons. Naming materials that hold or surround the plants		Retrieval Opportunity Winter, Spring and associated weather. Naming the seasons. Basic body parts (head, arm, leg, foot, hand, wrist, shoulder, elbow, knee, hip, back) Basic animal names (elephant, lion, giraffe, monkey, tiger, dog, cat, spider etc) Naming plants that the animals eat.	
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. <u>Working scientifically enquiry types covered:</u> ○ Comparative testing ○ Fair testing. ○ Asking simple questions ○ Identifying, classifying and grouping materials. ○ Observation over time(seasonal changes) <u>Unit overview:</u> <u>Focus: Seasonal changes: 2 lessons</u> <u>Key questions:</u> What is the difference between the seasons? Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. Pre unit assessment (seasonal changes) Week 1 - What are the 4 seasons? Week 2 - Is the weather the same in each season? Pre unit assessment (materials) Week 3- What's the difference between the materials? Week 4 – How many materials can you name? Week 5 - What materials can you find and name around school? Week 6 - What do materials look/feel like? Week 7 - What objects are made from the same material? Week 8 - Which materials float? Week 9 and Week 10 - Which material is the best for an umbrella? Week 11 - What is the weather like in winter? End of unit assessment - Week 12 - What materials are the best to build a tower? Children to draw a picture and label it explaining what materials they have chosen and why they have chosen them. <u>Experiments and investigations:</u> ➤ Testing to see what materials are waterproof and absorbent. ➤ What items are made from the same materials? ➤ Complete a material walk around school.		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. <u>Working scientifically enquiry types covered:</u> ○ Fair testing. ○ Observation over time- growing plants. ○ Identifying, classifying and grouping plants. ○ Pattern seeking. ○ Observation over time (seasonal changes) <u>Unit overview:</u> Pre unit assessment Week 1- What do all plants have? Week 2 - What are seeds and what do they become when they grow? Week 3 - What are common wild and garden plants? LOTC- go to the garden to plant seeds Week 4 - Do all leaves look the same? Week 5 - What are the main parts of a plant and what do they do? Week 6 - What are the main parts of a tree and what do they do? Week 7 - What are deciduous and evergreen trees and how do these change throughout the year? Week 8 - and 9 - How does water travel in a plant? Week 10 – Who is Charles Darwin? Do bigger fruits have bigger seeds? (Science week) <u>Focus: Seasonal changes: 1 lesson</u> LOTC- utilise the garden to investigate wild and garden plants. What signs of Spring are there? <u>Key questions:</u> What is the difference between the seasons? Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. Week 11 – What is the weather like in spring? End of unit assessment- Week 12 - What are plants? Children to present their findings from the unit in the form of a poster. <u>Experiments and investigations:</u> ➤ -Classifying plants. ➤ -Growing a bean plant. ➤ -How does water travel in a plant? ➤ -Comparing trees and plants. ➤ -Do bigger fruits have bigger seeds? ➤ -What's the difference between a fruit and a vegetable? <u>Scientist:</u> Charles Darwin		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. <u>Working scientifically enquiry types covered:</u> ○ -Identifying, classifying and grouping animals. ○ -Pattern seeking ○ -Observation over time (seasonal changes) <u>Unit overview:</u> Week 1 – pre unit assessment- How should we sort the animals? Week 2 - Can we identify, name, draw and label parts of the human body? Week 3 - What part of the body is associated with each sense? Week 4 – Who is Jane Goodall? How can we group animals? Week 5 - What parts of an animal's body do you know? PS-exotic pets. Week 6 and 7 - What animals are herbivores/carnivores and omnivores? Week 8 - What do different animals eat? End of unit assessment- Week 9 - How are animals different? Children to present their findings based on a family pet or a farm/zoo animal. <u>Focus: Seasonal changes: 2 lessons</u> <u>Key questions:</u> What is the difference between the seasons? Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. Week 10 - What's the weather like in summer? End of unit assessment- Week 11 – (seasonal changes) What is the difference between the seasons? Children to present their findings from the unit in the form of a poster that will be split into 4 sections representing each season. <u>Experiments and investigations:</u> ➤ Classifying animals ➤ What food do animals eat? (poo investigation). ➤ What's the difference between the seasons? <u>Scientist:</u> Jane Goodall?	



SCIENCE

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Working Scientifically:

Throughout each unit of work there should be coverage of the Working Scientifically objectives. There is an expectation that each objective is covered at least twice in a year!

- asking simple questions and recognising that they can be answered in different ways
- performing simple tests
- gathering and recording data to help in answering questions
- identifying and classifying
- using their observations and ideas to suggest answers to questions observing closely, using simple equipment

Key Stage I (KSI) – Year 2

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer2
How do we use everyday materials for different purposes?	What do I need to help me to grow and survive?	Why do different living things live in different habitats?		How do different plants grow?	
Retrieval Opportunity Name basic materials (wood, glass, metal, water, plastic, fabric, stone) Waterproof / Absorbent. Forces – push, pull. Seasons.	Retrieval Opportunity Name basic external body parts (head, arm, leg, foot, hand, wrist, shoulder, elbow, knee, hip, back) Name the 5 senses.	Retrieval Opportunity Animal and plant names. Minibeast names. Plant names. Seasons. Scientist – Jane Goodall		Retrieval Opportunity Name the parts of a plant (flower, petals, stem, root, seed, leaf) Name the parts of a tree (roots, trunk, flower, branches) Identify and explain the difference between evergreen and deciduous trees. Know how water travels through a plant. Scientist – Charles Darwin	
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. <u>Working scientifically enquiry types covered:</u> ○ Classifying and grouping ○ Pattern seeking ○ Comparative ○ Research ○ Technology and problem solving. <u>Unit Overview</u> Pre unit assessment Week 1 – What are everyday materials made from around our school and what are their properties? LOTC Week 2 – What materials are suitable for housing a pet hamster? Week 3 – Who is Charles Macintosh? Week 4 – Which material is suitable for an outdoor coat? LOTC – testing different materials with water outside Week 5 – How can I change the shape of objects? Week 6 – Which is the strongest paper? End of unit assessment – Week 7 – How do we use every day materials for different purposes? Chn use a variety of materials; change the shape to make the strongest bridge to hold a toy car.	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 foods and hygiene. <u>Working scientifically enquiry types covered:</u> ○ -Classifying and grouping ○ -Observe over time ○ -Comparative ○ -Pattern seeking ○ -Research <u>Unit Overview</u> Pre unit assessment – Week 1- What body parts do I have? What senses do I use every day? Week 2 – Are all animals born in the same way? How do humans change as they grow? Week 3 – What do humans and animals need for survival? Week 4 – What is a balanced diet? Are you drinking plenty? Week 5 – Why is exercise important? What can we do to help us keep clean? End of unit assessment – Week 6 –What do I need to help me to grow and survive? Chn to create a poster to display what they need to grow and survive. <u>Experiments and investigations:</u>	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. <u>Working scientifically enquiry types covered:</u> ○ Classifying and grouping ○ Observe over time ○ Comparative ○ Problem solving ○ Research <u>Unit Overview</u> Pre unit assessment Week 1 – What living things can be found around school? Week 2 – What is the difference between living and dead? Week 3 – What is a habitat? Which plants and animals live in British habitats? Week 4 – Which plants and animals live in world habitats? Week 5 – How are living things dependent on each other? Week 6 – How many different types of minibeasts do we have in our local environment? LOTC – visit to Haden Hill Park Week 7 and 8 - Where do minibeasts live? Week 9 and 10 - What are the best conditions for an Earthworm? LOTC – looking for earthworms in the school garden. Week 11 – How do animals obtain their food? End of unit assessment – Week 12 – Why do different living things live in different habitats? <u>Experiments and investigations:</u> ➤ -Complete a living thing hunt around school. ➤ -Testing earthworms in different habitat conditions over time.		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. <u>Working scientifically enquiry types covered:</u> ○ -Classifying and grouping ○ -Observe over time ○ -Research ○ -Comparative ○ -Pattern seeking <u>Unit Overview</u> <u>Unit Overview</u> Week 1 – Pre unit assessment – What are seasons and how does weather change? What plants and trees grow in the UK? What parts make up a plant and a tree? Week 2 – Who is Tim Smit and Nicholas Grimshaw? Week 3 – What do different seeds look like? Week 4 and 5 – What is germination and which seeds will grow the quickest? LOTC – planting seeds outside on grass area. Week 6 – What do different bulbs look like? Week 7 – What do plants need to grow, stay healthy and survive? Week 8 and 9 –Is water the only liquid that will help a plant to grow and stay healthy? Week 10 – What plants do we eat? Week 11 – What plants grow at the Eden Project and how do they reproduce? End of unit assessment – Week 12 - How do different plants grow? Chn to have all the plants they have grown on the table to discuss what happened to each plant as it grew. Chn to choose a plant to make a plant fact file. <u>Experiments and investigations:</u> ➤ -Sorting different seeds and bulbs discovering shapes, sizes and colours. ➤ -Plant a variety of different seeds and observe over time how fast they grow. ➤ -Put celery in different types of liquid and record the condition of the plant over time. ➤ -Research different world plants grown in the Eden Project and learn who created it.	



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Experiments and investigations: ➤ Complete a material hunt around school. ➤ Investigating the most suitable material for a hamster cage using materials and a nail file. ➤ Testing materials in water to investigate the most suitable material for an outdoor coat. ➤ Changing the shape of a variety of materials by squashing, bending, stretching and twisting them. ➤ Comparing the strength of different materials for a paper shopping bag. ➤ Investigating the most suitable material and shape for a toy car bridge. Scientist link: Charles Macintosh.	➤ -Comparative test to measure how long it takes for chn to complete a task, dependent on age (invite chn from each year group) ➤ -classify and group food using the Eat-well plate. ➤ -Observe over time the amount of water drank in a week.	➤ -Comparing different habitats. - Investigating Mini beast and Micro habitats in the local area (Haden Hill Park)	Scientist link: Tim Smit and Nicholas Grimshaw – The Eden Project – Cornwall UK.
Working Scientifically: Throughout each unit of work, there should be coverage of the Working Scientifically objectives. There is an expectation that each objective is covered at least twice in a year • asking simple questions and recognising that they can be answered in different ways • performing simple tests • gathering and recording data to help in answering questions • identifying and classifying • using their observations and ideas to suggest answers to questions observing closely, using simple equipment			

Lower Key Stage 2 (LKS2) – Year 3					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer2
Are all rocks the same?	How do magnets work?	Can light travel through everything?	What do the different parts of a plant do?	How does our skeleton develop throughout our life?	How does my lifestyle affect the amount of nutrients I need?
Revisit Opportunities: Sedimentary rocks. Properties of rocks. Fossils and how they are created.	Retrieval Opportunity Push and pull. Attract / repel. Name a selection of materials.	Retrieval Opportunity Sources of light Reflection / shadow. Transparent, opaque, translucent.	Retrieval Opportunity Name the external parts of a plant and tree. Evergreen and deciduous trees. Know how water travels through a plant. Scientist - Charles Darwin Scientists - Tim Smit and Nicholas Grimshaw – The Eden Project – Cornwall UK.	Retrieval Opportunity Name basic external body parts (head, arm, leg, foot, hand, wrist, shoulder, elbow, knee, hip, back) Name the 5 senses. Bones, muscle, internal organs. Healthy diet	
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. Working scientifically enquiry types covered: ○ Classifying and grouping ○ Comparative ○ Fair testing ○ Research ○ Technology and problem solving.	Notice that some forces need contact between two objects and some forces 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 based on whether they are attracted to a magnet and identify some magnetic materials. Working scientifically enquiry types covered: ○ Classifying and grouping ○ Pattern seeking ○ Comparative ○ Fair testing	Notice that light is reflected from surfaces. Associate shadows with a light source being blocked by something; find patterns that determine the size of shadows. Working scientifically enquiry types covered: ○ Classifying and grouping ○ Pattern seeking ○ Comparative ○ Fair testing ○ Technology and problem solving. Unit Overview	Identify and describe the functions of different parts of flowering plants: roots, stem, 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 role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. Working scientifically enquiry types covered: ○ Observation over time ○ Classifying and grouping ○ Pattern seeking	Identify that animal, 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 human and some other animals have skeletons and muscles for support, protection and movement. Working scientifically enquiry types covered: ○ Classifying and grouping ○ Pattern seeking ○ Comparative ○ Research ○ Technology and problem solving Unit Overview Pre unit assessment Week 1 - Can you build and label a skeleton? Pupils to have a selection of bones to cut and stick to make a skeleton.	



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Unit Overview Pre unit assessment Week 1 -: How can we sort rocks? Chn to sort rocks, using their own ideas for groupings. Week 2 and 3 - What are the properties of different rocks? Week 4 - How are rocks layered? Week 5 - - How are fossils formed? Week 6 - How are soils formed? Week 7 - Who is Robert Bakker? End of unit assessment - Week 8 - Which rocks would you use to make a patio? Experiments/ Investigations ➤ Exploring rocks types in local area. Investigate strength/ durability of different rocks acid test with vinegar, waterproof test. ➤ Constructing the layers of rocks under Earth using coloured paper. Investigate how sedimentary rocks are formed- make sedimentary rocks. ➤ Making a replica of a fossil. Scientific Link- Robert Bakker	○ Research ○ Technology and problem solving. Unit Overview Pre unit assessment Week 1 - How do magnets work? Children write a short explanation into how they think magnets work. Week 2 - Do all forces need contact between objects to move on different surfaces? Week 3 - Which materials are magnetic? LOTC- <u>Children collect materials from the playground.</u> Week 4 - Do magnets attract or repel each other? Week 5 - Who was William Gilbert? Week 6 - How do magnets vary in strength? End of unit assessment - Week 7 - How do magnets work? Chn to design a game labelling how the magnets would work and assess their understanding. Experiments/Investigations ➤ Investigate which materials are magnetic. ➤ Experiment the amount a magnet can hold when looking at magnet strength. ➤ Investigate whether magnets attract or repel. Scientific Link- William Gilbert	Pre unit assessment Week 1 - - How do we know when a shadow is formed (that dark is the absence of light)? Chn draw a shadow and explain why we have a shadow and how it is formed. Week 2 - How does light travel? Week 3 - What is a reflection and how do we use it in everyday life? Week 4 - What are the dangers of light and how can we protect ourselves? Week 5 - Who is Thomas Edison and what did he do? (Thomas Edison) Week 6 - What happens when a lights path is blocked? LOTC- <u>Children to explore their shadows on the playground.</u> Week 7 - How can we change the size of a shadow? End of unit assessment - Week 8 - Can everything make a shadow? Children to be provided with a collection of materials to explore (some transparent, some translucent and some opaque). Ask the children to investigate which materials form shadows when a torch is shone on them Experiments/ Investigations ➤ Does the distance of the object affect the shadow size? ➤ Using Mirrors investigate how light travels. ➤ Which material reflects light best? Scientific Link- Thomas Edison-	○ Comparative ○ Fair testing ○ Research Unit Overview Pre unit assessment Week 1 - What are the different parts of a flowering plant and what are their purpose? Chn to make a playdough 3d plant and label the parts (5 minutes limit to make). Week 2 - Do all plants have the same needs to grow? (Chn to revisit this at the start/end of each lesson as they grow over the term.) LOTC- <u>plant a seed outside.</u> Week 3 - How is water transported around a plant? Week 4 - What is the life cycle of a flowering plant? Week 5 - How do flowers affect the life cycle of a plant? Week 6 - Do all plants grow equally if they are kept in the same conditions? End of unit assessment - Week 7 - What do different parts of the plant do? Chn to create a 'How to care for plants.' guide... for 2 plants highlighting the differences between plants. Experiments/ Investigations ➤ Investigating different plants growing in the same conditions ➤ Observation of plants growing in the same conditions to compare growth rates. Week 6. Carnations, celery, etc. in coloured water week 3	Week 2 - What are the main bones in a human skeleton Week 3 - What is the purpose of skeletons? Week 4 - How do the skeletons of animals differ to humans? Week 5 - How does our skeleton support our muscles to help us move? Mid-term Assessment: Week 6 - How does our skeleton develop throughout our life? Pre-Assessment Week 7 - What nutrients do I need to stay active? Chn to plan a healthy meal labelling why they chosen the foods. Week 8 - Why do we need to eat food? (To understand that food is fuel and how humans obtain nutrients). Week 9 - How does the sugar content in drinks vary? Week 10 - How do the diets of animals vary from humans? Week 11 - How do our dietary choices affect our nutrition? (e.g. allergies/vegetarian) End of unit assessment: Week 12 - What nutrition does an Olympic athlete need to function? Chn to create nutrition plan for an athlete. Experiments/Investigations ➤ Investigating how our skeleton develops as we grow- look at the skeletons of a baby, toddler, teen, adult and older person. Children will compare what has changed (size of bones, number of bones, teeth, discuss the frailness of bones) ➤ What is the purpose of a skeleton in a body? Children to look at the effect of a skeleton inside a body. What do we think would happen if we didn't have a skeleton? What is the function of a skeleton? www.homesciencetools.com/content/reference/AEMAnalSAMPLE.PDF ➤ Make a moving joint. — lesson 3- children to look at the purpose of a skeleton and create a joint to show how we move. ➤ Investigate the sugar content in drinks- measure the amount of sugar in different drinks and ordering and comparing.
Working Scientifically: Throughout each unit of work, there should be coverage of the Working Scientifically objectives. There is an expectation that each objective is covered at least twice in a year. • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, 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 • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings.				

Lower Key Stage 2 (LKS2) – Year 4					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2



SCIENCE WHOLE SCHOOL OVERVIEW

Biology units

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How does electricity make things work?	How does pitch and volume affect sounds?	How do materials change state?	What happens to the food we eat inside our bodies? What would life be like without teeth?	How are living things related?
Retrieval Opportunity Scientist - Thomas Edison. Insulator / conductor.	Retrieval Opportunity Senses. Name materials and their properties.	Retrieval Opportunity Name materials and their properties. Translucent, opaque and transparent. Solids, liquids and gases Evaporation and condensation. Scientist - Charles Macintosh.	Retrieval Opportunity External body parts Basic internal organs (heart, lungs, stomach) Main bones in a human skeleton Nutrition and healthy eating	Retrieval Opportunity Herbivores / carnivores / omnivores Mammals / reptiles / amphibians / fish / birds Vertebrate / invertebrate Habitats. Scientist - Jane Goodall
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. <u>Working scientifically enquiry types covered:</u> ○ Pattern seeking ○ Comparative ○ Fair testing ○ Research ○ Technology and problem solving. <u>Unit overview</u> Pre unit assessment - Week 1 - How is electricity used in everyday life and what are the dangers of electricity? Week 2 - How does a circuit work? Week 3 - How do switches affect a circuit? Week 4 - What is the difference between an insulator and a conductor? Week 5 - What are examples of electrical energy and how is a plug wired? Week 6 - Who is Alessandra Volta? End of unit assessment - Week 7 - How does electricity make things work? Children to use all the knowledge they have to create a working burglar alarm. <u>Experiments and investigations:</u> ➤ Create a simple circuit using a bulb and a buzzer. ➤ Create a circuit using a switch. ➤ Create a range of circuits using different components. <u>Scientist link</u> Alessandro Volta	Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases. <u>Working scientifically enquiry types covered:</u> ○ Observation over time ○ Comparative ○ Fair testing ○ Research ○ Technology and problem solving. <u>Unit overview</u> Pre unit assessment - Week 1 - How are sounds made? Week 2 - Does the length of a rubber band effect its pitch? Week 3 - How does sound travel? Week 4 - Which type of material is best for blocking out the sound? Week 5 - What influence did Alexandra Graham Bell have on the world of sound? End of unit assessment - Week 6 - How does pitch and volume affect sound? Children to present their learning from the unit in a presentation of their choice (poster, PowerPoint, game etc.). <u>Experiments and investigations:</u> ➤ Complete a sound walk around school. ➤ Does the length of a rubber band affect its pitch? ➤ Make a string telephone. ➤ Materials, which muffle sound the best. <u>Scientist link</u> Alexandra Graham Bell	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. <u>Working scientifically enquiry types covered:</u> ○ Observation over time ○ Classifying and grouping ○ Pattern seeking ○ Fair testing ○ Research ○ Technology and problem solving. <u>Unit overview</u> Pre unit assessment - Week 1 - How can we group materials? Week 2 - What are the 3 states of matter? Week 3 - How do raisins dance? Week 4 - What happens to a solid at different temperatures? Week 5 - What affect does freezing and melting have on a liquid? Week 6 - What is evaporation and condensation? Week 7 - How does the water cycle work? Week 8 - How do we dry our clothes? Week 9 and Week 10 - How do we create the best geyser model? Week 11 - How do gases move around? End of unit assessment - Week 12 - How do materials change state? Children to hold a science fayre in the classroom by choosing a part of their learning from the unit to present and explain. <u>Experiments and investigations:</u> ➤ Sort and classify materials based on their state. ➤ Make raisins dance in lemonade- investigating what happens to a solid in liquid and gas. ➤ Melting chocolate at different temperatures. ➤ Melting and freezing water. ➤ How to dry clothes in different ways. ➤ How a geyser works- Coke and Mentos ➤ How gas fills space with a range of objects.	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. <u>Working scientifically enquiry types covered:</u> ○ Observation over time ○ Comparative ○ Research ○ Technology and problem solving. <u>Unit overview</u> Pre unit assessment - Week 1 - What are the functions of the digestive system? Week 2 - How does the digestive system work? Week 3 - How many different types of teeth do humans have? Week 4 - Which liquid does the least damage to eggshells? Week 5 - What are food chains? End of unit assessment - Week 6 - What would life be like without teeth? Children to explain the role of teeth in the process of digestion then link to the digestive system in a presentation. <u>Experiments and investigations:</u> ➤ Create a working digestive system model using household items. ➤ Eggshells in different liquids. ➤ Sea animal's investigation- looking at the food chains.	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. <u>Working scientifically enquiry types covered:</u> ○ Observation over time ○ Classifying and grouping ○ Pattern seeking ○ Comparative ○ Fair testing ○ Research ○ Technology and problem solving. <u>Unit overview</u> Pre unit assessment - Week 1 - How can living things be grouped? Week 2 - What are the characteristics of a vertebrate and an invertebrate? Week 3 - What is a classification key? Week 4 - Why are bees so important to the environment? Week 5 - What is the common link between chocolate biscuits and orangutans? Week 6 - What are the positive and negative changes that have happened to the local environment? End of unit assessment - How are living things related? Children to present their finding from the unit in the form of a poster or PowerPoint presentation. <u>Experiments and investigations:</u> ➤ Sort and classify living things. ➤ Invertebrate hunt in the local environment. ➤ Outdoor visit to a suitable local habitat e.g. a local park or an area of the school grounds that will show signs of man-made changes. <u>Scientist link</u> David Attenborough
Working Scientifically: Throughout each unit of work, there should be coverage of the Working Scientifically objectives. There is an expectation that each objective is covered at least twice in a year.				



SCIENCE

WHOLE SCHOOL OVERVIEW

Biology units

Chemistry units

Physics units

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, 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
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

Upper Key Stage 2 (UKS2) – Year 5					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
What happens in space?	Do all forces make objects do the same thing?	How can materials change?		What happens to us as we grow up?	What is a life cycle?
Retrieval Opportunity Sun / Earth / Moon Name the planets Geocentric / heliocentric models.	Retrieval Opportunity Basic forces – push / pull Attract / repel (magnets) Gravitation Resistance Scientist – William Gilbert	Retrieval Opportunity Name materials and their properties. Translucent, opaque and transparent. Solids, liquids and gases Evaporation and condensation. Conductors / insulators Soluble / insoluble Scientist – Charles Macintosh		Retrieval Opportunity Name basic internal and external body parts. Growing up – baby, toddler, child, teenager, adult. Puberty – PSHE revisit	Retrieval Opportunity Name a range of animals and plants. Name the parts of a plant – internal and external.
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. <u>Working scientifically enquiry types covered:</u> ○ Research ○ Classifying and grouping ○ Comparative <u>Unit Overview</u> Pre unit assessment – Children to draw space, label the planets and have a go at answering: What happens in Space? Week 1: What shape is the earth? Week 2: What is an orbit path? LOTC Week 3: Can you name and order the planets? Week 4: What are the geocentric and heliocentric models? LOTC Week 5: Why do we have day and night? Week 6: How does the moon move?	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. <u>Working scientifically enquiry types covered:</u> ○ Fair testing ○ Problem solving ○ Comparative <u>Unit Overview</u> Pre unit assessment – Children to have pictures of a range of everyday things occurring. They need to identify what force is being used. Week 1: Why do objects need balanced forces? Week 2: Does the weight of an object affect the gravitational pull? Week 3: Does the material of an object affect air resistance? LOTC Week 4: What is water resistance? LOTC Week 5: What is friction? Week 6: Do all forces make an object do the same thing?	Compare and group together everyday materials based on their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. <u>Working scientifically enquiry types covered:</u> ○ Classifying and grouping ○ Observation over time ○ Fair testing ○ Pattern-seeking ○ Comparative ○ Problem solving <u>Unit Overview</u> Pre unit assessment – How can these materials be grouped? Week 1: How do these materials compare? – Properties: magnetic, flexibility and transparent Week 2: How do these materials compare? – Properties: hardness and conductivity Week 3: How strong are these materials? Week 4: How absorbent are these materials? Week 5: What happens when these materials dissolve in liquid? Week 6: What materials are thermal conductors and insulators?		Describe the changes as humans develop to old age. <u>Working scientifically enquiry types covered</u> ○ Research ○ Comparative ○ Observation over time ○ Pattern-seeking ○ Classifying and grouping <u>Unit Overview</u> Pre unit assessment – Chn to have a range of cards, which show different stages of human life. They are to sort and classify in groups. Week 1: What types of development do humans go through? Week 2: What happens during pregnancy? Week 3: How do babies grow and develop into childhood? Week 4: What is the relationship between gestation and life expectancy? Week 5: Nurse Visit: What will happen to me as I grow up? Week 6: What happens to humans in their old age?	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 <u>Working scientifically enquiry types covered:</u> ○ Research ○ Comparative <u>Unit Overview</u> Pre unit assessment – What is a life cycle? Children to complete a grid to show what they know, what they want to know and leaving blank for now, what they have learnt. Watch video of lifecycle of a butterfly (Explorify). Use this as a prompt for a matching game of different animals' life cycles (pictures printed for children to match). Week 1: How do some plants reproduce through sexual reproduction? Identify plants in our local environment, which reproduce in this way. Week 2: How do some plants reproduce through asexual reproduction? Identify plants in our local environment, which reproduce in this way. Week 3: How do lifecycles and the reproduction of mammals from different habitats compare? (kangaroo,



SCIENCE
WHOLE SCHOOL OVERVIEW

Biology units

Chemistry units

Physics units

End of unit assessment – Week 7 – What happens in space? Children to correct any misconceptions and adding to their drawing from the beginning of the unit. Photocopy work from Week 1. Things I've found out – bullet points of explanations of what they've found out during the topic. Experiments and investigations: ➤ Investigating how the planets travel on their orbit path. ➤ Investigating how the Earth rotating gives us day and night. ➤ Investigating the different moon phases and why these occur. Scientist Link: Nicolaus Copernicus	End of unit assessment – Children to have a different range of pictures of everyday things occurring. They need to identify what force is being use. How did they find doing this compared to the beginning of the topic? Experiments and investigations: ➤ Identifying what force is in use ➤ Investigating weight ➤ Investigating how air resistance affects different materials ➤ Investigating how water resistance affects different materials ➤ Investigating how friction affects different materials Scientist Link: Isaac Newton	Week 7: How can mixtures and solutions be separated? – filtering Week 8: How can mixtures and solutions be separated? – sieving Week 9: How can mixtures and solutions be separated? – evaporating Week 10: Are these materials soluble or insoluble? Week 11: Are all changes reversible? End of unit assessment – Week 12- How can materials change? Children to present their finding from the unit in the form of a poster or PowerPoint presentation. Experiments and investigations: ➤ Identify the properties of materials ➤ Experimenting the absorbency of materials ➤ Investigating dissolving ➤ Investigating thermal conductors and insulators ➤ Experimenting how mixtures and solutions can be separated ➤ Experimenting to see which materials are soluble or insoluble ➤ Investigating revisable and irreversible changes	End of unit assessment – Children to create a diagram showing the different stages of life for a human, annotating with key scientific vocabulary. Experiments and investigations: ➤ –Investigate the speed of growth ➤ Investigate the relationship between life expectancy and gestation ➤ Nurse visit- Investigating puberty	platypus and a rabbit) Week 4: What did Jane Goodall discover about chimpanzees? Week 5: What are the similarities and differences of the life cycles of amphibians and insects? (butterflies and frogs in the local area) Week 6: How do the life cycles of plants, mammals, amphibians, insects and birds compare? End of unit assessment – Week 7: Children to return to KWL grids and self-assess what their learning has been during the topic. Activity: children to work in small groups to research two different species life cycles and present their findings in any way they please e.g. poster, PowerPoint, drama or a model. Experiments and investigations: ➤ Investigating how pollination works ➤ Investigating how geranium plants reproduce Scientist Link: Jane Goodall
Working Scientifically: Throughout each unit of work, there should be coverage of the Working Scientifically objectives. There is an expectation that each objective is covered at least twice in a year: • planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and 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 and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations • identifying scientific evidence that has been used to support or refute ideas or arguments				

Upper Key Stage 2 (UKS2) – Year 6					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
What is the circulatory system and how do different factors affect it?	What is evolution and how have we evolved?	What can affect the power in a circuit?		How do we see things?	How can we classify living things?
Retrieval Opportunity Name external body parts. Heart, lungs, stomach, muscle, bones. Digestive system Healthy diet	Retrieval Opportunity Name a range of animals and their habitats. Animal and plant reproduction. Scientist - Charles Darwin	Retrieval Opportunity Conductors / insulators Range of materials and their properties. Scientist - Alessandro Volta		Retrieval Opportunity Senses Sources of light Reflection / shadow / refraction Transparent, opaque, translucent. Scientist – Thomas Edison	Retrieval Opportunity Herbivores / carnivores / omnivores Mammals / reptiles / amphibians / fish / birds Vertebrate / invertebrate Scientist – Jane Goodall
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. Working scientifically enquiry types covered:	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.	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. Working scientifically enquiry types covered: ○ Pattern seeking ○ Fair testing ○ Research		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	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. Working scientifically enquiry types covered: ○ Classifying and grouping



SCIENCE
WHOLE SCHOOL OVERVIEW

Biology units

Chemistry units

Physics units

○ Research ○ Technology and problem solving ○ Observation over time ○ Comparative ○ Fair testing Unit overview Pre unit assessment – Heart Rate Head Stands. The children will complete a short investigation about the change of heart rate before and after a headstand. This will be evidenced on an investigation sheet in books. Week 1 – What are the main parts of the circulatory system? Week 2 – What are the functions of the heart, blood vessels and blood? Week 3 – How are nutrients and water transported through the body? Week 4 – How does diet and exercise affect our body? (research lesson) Week 5 - How does diet and exercise affect our body? (presentation of research lesson) Week 6 – How can we measure heart rate? LOTC Week 7 – What are the effects of drugs and alcohol on the body? End of unit assessment – The children are to produce an informative leaflet based on the focus question – What is the circulatory system and how do different factors affect it? The informative leaflet will then be stuck into the children's books. Experiments and investigations: ➤ Measure heart rate after a headstand ➤ Measure heart rate after a range of exercise ➤ Exercise benefits-	<u>Working scientifically enquiry types covered:</u> ○ Comparative ○ Research ○ Technology and problem solving. ○ Pattern seeking ○ Classifying and grouping Unit overview Pre unit assessment – Animals and their Habitats. The children will have a range of animals. They need to annotate each animal with how they have evolved and adapted to their habitat. This will be evidenced on a sheet to be stuck into books. Week 1 – How can we identify inherited characteristics from parents to offspring? Week 2 – What is the process of adaptation in different environments? Week 3 – What is the concept of evolution? Week 4 – How can we examine evidence for evolution? Week 5 – How have humans evolved? Week 6 – What are the advantages and disadvantages of adaptation and how do characteristics pass from parents to offspring? End of unit assessment – Interview. The children will work in partners to interview Charles Darwin starting off with the focus question – What is evolution and how have we evolved? The children need to use their learning from the unit to create questions. They also need to ensure they use the facts learnt for their answers. Volunteers will then come to the front of the class and perform their interview. Pictures of the interviews will be taken and placed onto an evidence sheet to go into books. Experiments and investigations: ➤ Creating offspring from a set of characteristics ➤ Creating a new animal with adaptive traits to a habitat ➤ Sort and classify inherited traits, adaptive traits and natural selection Scientist link: Charles Darwin	○ Technology and problem solving. Unit overview Pre unit assessment – Sorting Activity. The children will have a blank sheet, pictures of components and an explanation for what each component does in a circuit. They need to match them up correctly and choose the correct explanation for each one. There are some included in the pack which are not needed. This will be evidenced on a sheet to be stuck into books. Week 1 – How has electricity changed over time? Week 2 – What are scientific circuit symbols? Week 3 – What are the effects of differing voltages in a circuit? Week 4 – Does wire length affect how components in a circuit work? (planning the investigation) Week 5 - Does wire length affect how components in a circuit work? (carrying out investigation) Week 6 – Can we use our knowledge of circuits to make our own wind turbine? Week 7 – What information can we retrieve about electricity? Week 8 – Would additional components in a circuit affect the power? (planning the investigation) Week 9 - Would additional components in a circuit affect the power? (carrying out investigation) Week 10 – How can we create our own game based on electricity? Week 11 – Would using different materials for wires affect a working circuit? Week 12 – How can we keep ourselves electrically safe in our homes? End of unit assessment – Creating a set of traffic lights. The children will use all of their knowledge to create a set of traffic lights. They will be given a range of resources and equipment that they could use in order to create a working set of traffic lights. Pictures of the traffic lights made will be taken and placed onto an evidence sheet to go into books. Experiments and investigations: ➤ Changing the number of batteries in a circuit to observe the effect on the power of the circuit ➤ Changing the wire length in a circuit to observe the effect on the components in the circuit ➤ Adding additional components to the circuit to observe the effect on the power of the circuit ➤ Create a steady hand game ➤ Use different materials for wires to observe the effect on the power of the circuit ➤ Create a set of traffic lights	shadows have the same shape as the objects that cast them. Working scientifically enquiry types covered: ○ Research ○ Technology and problem solving ○ Pattern seeking Unit overview Pre unit assessment – Thought Shower. The children will complete a thought shower about everything they already know about light. Week 1 – Where does light come from and how does it travel in straight lines to explain shadows? Week 2 – How can we use a periscope to reflect light and help us to see? LOTC Week 3 – What is refraction and how does it change the direction of light? Week 4 – How does a prism change a ray of light to show the spectrum? Week 5 – How can we experiment with light filters? End of unit assessment – Making a spectroscope. The children will use their knowledge from the unit to make a spectroscope where they will be able to discuss the refraction of light and the colour spectrum. Experiments and investigations: ➤ Make own periscope ➤ Amazing Arrow - Draw a horizontal line on a small piece of paper, hold the piece of paper behind a glass filled with water ➤ Incredible Images - Draw a small picture on a piece of paper. Place an empty glass over the top of the picture and look at it through the side of the glass. The glass then needs to be slowly filled with water and when it is full, cover the top of a glass with a saucer. ➤ Create own colour wheel ➤ Create a secret message linked to light filters ➤ Create a spectroscope	○ Pattern seeking ○ Comparative ○ Fair testing ○ Research ○ Technology and problem solving Unit overview Pre unit assessment – Creating Keys. The children will start with the same question 'Does it have feathers?' They then need to complete their own key for a further four animals linked to answering yes or no questions. Week 1 – How can we classify animals based on their similarities and differences? Week 2 – What is the Linnaean system of classification? Week 3 – How can we classify creatures based on their characteristics? Week 4 – How can we investigate the effect of bacteria? LOTC Week 5 – What are the different types of microorganisms? Week 6 – How can we identify different vertebrates and invertebrates in our environment? End of unit assessment – Poster. The children will produce a poster with knowledge on from the unit of work. They can create their poster in any way they wish to; ensuring that they include pictures and key facts. Experiments and investigations: ➤ Sort and classify animals using the Linnaean System ➤ Investigation into how mould grows ➤ Create own microorganism ➤ Create a field guide booklet into living things around the school Scientist link: Carl Linnaeus
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Working Scientifically:

Throughout each unit of work there should be coverage of the Working Scientifically objectives. There is an expectation that each objective is covered at least twice in a year:

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, 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
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.



SCIENCE WHOLE SCHOOL OVERVIEW

Biology units

Chemistry units

Physics units

Overview of Scientists studied

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Materials		Charles Macintosh.	Robert Bakker			
Animals including humans	Jane Goodall					
Sound				Alexandra Graham Bell		
Living things and their habitats		.		David Attenborough	Jane Goodall	Carl Linnaeus
Plants	Charles Darwin	Tim Smit / Nicholas Grimshaw (Eden Project)				
Light			Thomas Edison-			
Forces and magnets			William Gilbert		Isaac Newton	
Electricity				Alessandro Volta		
Earth and space					Nicolaus Copernicus	
Evolution and inheritance						Charles Darwin

Overview of science units of work

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1	Biology Unit	Chemistry unit	Chemistry unit	Chemistry unit	Physics unit	Physics unit	Biology unit
Autumn 2		Short Physics unit of work	Biology unit	Physics unit	Physics unit	Physics unit	Biology unit
Spring 1	Biology Unit	Biology unit	Biology unit	Physics unit	Chemistry unit	Chemistry unit	Physics unit
Spring 2		Short Physics unit of work		Biology unit			
Summer 1	Combined Science Unit	Biology unit	Biology unit	Biology unit	Biology unit	Biology unit	Physics unit
Summer 2		Short Physics unit of work		Biology unit	Biology unit	Biology unit	Biology unit