



Science Subject Profile

Subject Lead background: P.E. Community work and extensive experience in Critical Thinking Development through employment for Creative Partnerships and 10 years experience within school as Educational Visits Officer and Lead School Practitioner for Thinking Classrooms work with Mike Fleetham 2017 to current: Challenge 10/20 tools embedded into all planning.

Additional team: Essex Wildlife team (funded support programme 2021-23), Felicity Robinson - LOtC Consultant and school forest leads - HLTA with knowledge and skills in risk-benefit assessment and dynamic risk-assessment, and previous employment as a chef, and LSA with extensive gardening knowledge, P.E. and PSHE (including RSHE) Leads



Reading -

Classrooms - [Core Read-Aloud Stories, Non-Fiction and Poetry](#) Inventors' and 'Out of this World' STEM links 'Rainforests' and 'Australia' - Sustainability Climate Awareness (KS2)
Science Knowledge Organisers [Science Knowledge Organisers](#) **Science Vocabulary** [Science Vocabulary Display](#)
Tier 2 words: enquire, predict, classify, compare, observe, demonstrate and report

Scientists: David Attenborough (British Biologist and Historian - living memory) and Mary Anning (Palaeontologist - Scientific study of the history of life on Earth) - KS1
Alexander Bell (Scientist and Inventor), Thomas Edison (Scientist and Inventor), Marie Curie (Physicist and Chemist) - LKS2
Stephen Hawking (Physicist) and Peter Higgs (British Physicist - living memory - UKS2 Charles Darwin - Geologist and Biologist - Theory of Evolution UKS2
Space: English core text: Hidden Figures - The Story of Four Black Women and the Space Race Computing data-bases - Historian: Compare and Organise: astronauts including Mae Jemison, Helen Sharman and Tim Peake (living memory and diversity strand - significant Black History) [Science - Scientists - Spiral Curriculum](#)

Outdoor Learning Environment Design

- [Feedback 1-Edited -The Haven wildlife area and The Forest.](#)
- [Feedback Report 2 KS1 & Play markings .pdf](#)
- [Feedback Report 3 comp EY, KS1 & Play markings updated .pdf](#)
- [Feedback Report November 2022 .pdf](#)
- [Learning Outside the Classroom Policy 2023](#)

National Curriculum Units

[PLAN Progression in Knowle...](#)

Scientist Strands

(pupil-friendly 'subject symbols')

HH Learning Experience



(Context, Phase/Term taught and Progression - including vocabulary)

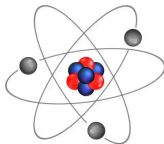

Plants
Animals (+Humans)
Living Things (+Habitats)
Evolution and Inheritance

Biology - Nature




Healthy Eating; Taking care of humans, Growing Up KS1 Au1 (Castles)
- Year 2 RSHE annually 'The Body - vocabulary'
Living or nonliving, Minibeasts (knowledge of different minibeasts and their body parts) Habitats (searching the local area for minibeasts), Butterfly Life Cycles KS1 Su2 (Minibeasts)
Animals: 5 groups - fish, amphibians, reptiles, birds and mammals. Diet: carnivores, herbivores, omnivores, body structure: vertebrate and invertebrate
KS1 A2 (Penguins / Dinosaurs)
Animals inc. humans - Skeletons and Muscles Classify Compare


		<p>Demonstrate Report LKS2 A2 (Egyptians)</p> <p>Living things and their habitats - Compare Classify Report LKS2 Sp2 (Rainforests)</p> <p>Plants - Compare Classify Inquire Observe Predict Report LKS2 Sp2 (Rainforests)</p> <p>Animals inc. humans - Food chains - Classify and Compare, Demonstrate LKS2 - A1 (Charlie & The Chocolate Factory)</p> <p>Teeth and Digestive Systems - Demonstrate LKS2 - A1 (Charlie & The Chocolate Factory)</p> <p>Animals inc. humans Nutrition - Compare Classify Report LKS2 Su1 - (Tudors)</p> <p>Evolution and Inheritance: observe, predict and demonstrate (Adaptation - Moth). Classify & compare (Inheritance) UKS2 A1 (War and Conflict)</p> <p>Circulatory system: report, observe, demonstrate. PE fitness link demonstrating blood flow through the heart UKS2 Sp1 (Out of this World)</p> <p>Life Cycles: Observe, Compare UKS2 Su1 (Around the World)</p> <p>Australia: Classify and Compare animals and plants: Classify and Compare, Observe, UKS2 Su2 (Australia)</p> <p>Amaryllis flower  Whole School Gardening Project</p> <p>- Year 5 and 6 RSHE annually Changing and Growing Up and How Babies are Made units</p>
<p>Forces and Magnets</p> <p>Earth and Space</p> <p>Electricity</p> <p>Light and Sound</p> <p>Seasons</p>	<p>Physics - Power</p> 	<p>The Seasons: Autumn, Spring, Summer, Winter. Local walk - the impact of physical changes to the environment for people: clothing, food, festivals etc and animals: hibernation, food scarcity etc (birdfeeders activity) KS1 A1 (Penguins)</p> <p>Materials - properties, man-made, natural - KS1 A1 (Castles)</p> <p>Light - Enquire Predict Observe Report Classify and compare Demonstrate LKS2 S2 (Inventors)</p> <p>Circuits and Conductors - Enquire Predict Observe Report Classify and Compare Demonstrate LKS2 S2 (Inventors)</p>

		<p>Forces and Magnets Enquire Predict Observe LKS2 S1 (Pirates)</p> <p>Sound Enquire, Compare Report LKS2 S1 (Charlie and the Chocolate Factory)</p> <p>AI: Electrical circuits: compare, report, demonstrate, enquire UKS2 Sp1 (Out of This World)</p> <p>Earth, Sun and Moon:observe, report, demonstrate. LOtC Solar System modelling UKS2 Sp1 (Out of this World)</p> <p>Light and sight: demonstrate, enquire, observe UKS2 A2 (War and Conflict)</p> <p>Forces: Pompeii: compare, predict, observe UKS2 Sp2 (Pompeii - Extreme Earth)</p>
<p>Materials</p> <p>State of Matter</p> <p>Rocks</p>	<p>Chemistry - Changes</p> 	<p>Cooking (Year 1 -6) and making a fire (UKS2) - 'oxygen, fuel, heat' Forest Sessions </p> <p>Materials - observe, predict,compare & classify, demonstrate, report KS1 A1 (Castles)</p> <p>Materials - Shaping Up, Apprentice Gardener Enquire, Predict, Observe, Report Classify and Compare KS1 Su2 (Minibeasts)</p> <p>Rocks, fossils and soils Classify and Compare Enquire LKS2 A2 (Egyptians)</p> <p>States of Matter LKS2 Sp1 (Pirates)</p> <p>States of Matter Report Classify and compare Demonstrate LKS2 Sp1 (Pirates)</p> <p>Marvellous Mixtures (Cholera) Observe, classify and compare - separating mixtures and states of matter UKS2 A1 (War and Conflict)</p> <p>Dodo Egg: properties of materials, inquire, classify and compare, demonstrate, report, predict UKS2 Sp2 (Pompeii - Extreme Earth)</p>

<p>Objectives (compiled from the National Curriculum)</p>	<p>Scientist Skills (pupil-friendly 'subject keys' to unlock the scientific skills)</p>	<p>HH Learning Experience (Context, Phase/Term taught and Progression)</p>
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<p>-Ask and answer simple questions -Ask and answer relevant questions, generating lines of enquiry -Generate and plan scientific enquiries and fair tests to answer a question</p>	<p>Asking questions Enquire</p>	<p>Minibeasts - Enquire KS1 Su2 (Minibeasts)</p> <p>Rocks, fossils and soils Enquire LKS2 A2 (Egyptians)</p> <p>Plants - Enquire LKS2 S2 (Rainforests)</p> <p>Light - Enquire LKS2 S2 (Inventors)</p> <p>Circuits and Conductors Enquire LKS2 S2 (Inventors)</p> <p>Forces and Magnets Enquire LKS2 S1 (Pirates)</p> <p>AI: Electrical circuits: Compare, Enquire UKS2 Sp1 (Out of This World)</p> <p>Light and sight: Enquire UKS2 A2 (War and Conflict)</p> <p>Dodo Egg: properties of materials, enquire, classify and compare, demonstrate, report, predict UKS2 Sp2 (Pompeii - Extreme Earth)</p>
<p>-Observe using simple equipment -Observe using equipment, gather and record data -Draw conclusions based on observations and results</p>	<p>Observe Classify and Compare Observing and Measuring</p>	<p>The Seasons: Autumn, Spring, Summer, Winter. - <i>Longitudinal studies each term</i> KS1</p> <p>Minibeasts - Observe KS1 Su2 (Minibeasts)</p> <p>Life Cycles: observe, compare UKS2 Su1</p> <p>Earth, Sun and Moon:observe LKS2 A2 (Egyptians)</p> <p>Light - Observe LKS2 S2 (Inventors)</p> <p>Circuits and Conductors - Observe LKS2 S2 (Inventors)</p> <p>Forces and Magnets Inquire Observe LKS2 S1 (Pirates)</p> <p>Whole-school annual gardening project: bulb lasagnes and annual competitions 'Williams Cup' Class Potato</p>

		<p>Growing and Amaryllis flower  - longitudinal study HERB GARDEN in The Haven, VEGETABLE PATCH in The Forest Camera Trap loan scheme (temporary)</p> <p>Evolution and Inheritance: observe, . UKS2 A1 (War and Conflict)</p> <p>Circulatory system:., observe.,. PE fitness link demonstrating blood flow through the heart UKS2 Sp1 (Out of this World)</p> <p>Life Cycles: observe, UKS2 Su1 (Around the World)</p> <p>Australia: Classify and compare animals and plants:., observe, UKS2 Su2 (Australia)</p> <p>Light and sight: observe, UKS2 A2 (War and Conflict)</p> <p>Forces: Pompeii: compare, predict, observe, UKS2 Sp2 (Pompeii- Extreme Earth)</p> <p>Marvellous Mixtures (Cholera) Observe, separating mixtures and states of matter UKS2 A2 (Victorians)</p>
<p>-Talk about observations, describe, compare and give reasons -Use existing knowledge to make predictions -Use previous results and observations to make further predictions</p>	<p>Observe Predict Making Predictions</p>	<p>Minibeasts - Enquire KS1 Su2 (Minibeasts)</p> <p>Plants - Predict LKS2 S2 (Rainforests)</p> <p>Light - Predict LKS2 Su2 (Inventors)</p> <p>Circuits and Conductors - Predict LKS2 Su2 (Inventors)</p> <p>Forces and Magnets Enquire Predict LKS2 Sp1 (Pirates)</p> <p>Evolution and Inheritance: Predict (Adaptation - Moth) UKS2 A2 (Victorians)</p> <p>Forces: Pompeii: Compare, Predict, Observe UKS2 Sp2</p> <p>Dodo Egg: properties of materials, Enquire, Classify and Compare, Demonstrate, Report, Predict UKS2 Sp2</p>

		Whole School - Amaryllis growing and bulb-lasagnes 
<ul style="list-style-type: none"> -Perform simple tests -Investigate and design fair tests -Take measurements using a range of scientific equipment 	<p>Observe Report Setting Up Tests Observe and Measure Interpreting and communicating results Evaluate</p>	<p>Minibeasts - Demonstrate KS1 Su2 (Minibeasts)</p> <p>Earth, Sun and Moon: Demonstrate - LOtC Solar System modelling UKS2 Sp1 (Out of this World) UKS2 Sp1 (Out of this World)</p> <p>Animals inc. humans - Skeletons and Muscles Demonstrate LKS2 A2 (Egyptian)</p> <p>Light - Demonstrate LKS2 Su2 (Inventors)</p> <p>Circuits and Conductors - Demonstrate LKS2 Su2 (Inventors)</p> <p>Teeth and Digestive Systems - Demonstrate LKS2 - A1 (Charlie & The Chocolate Factory)</p> <p>States of Matter Demonstrate LKS2 Sp1 (Pirates)</p> <p>Evolution and Inheritance: Demonstrate (Adaptation - Moth). UKS2 A1 (War and Conflict)</p> <p>Circulatory system: Demonstrate. PE fitness link demonstrating blood flow through the heart UKS2 Sp1 (Out of this World)</p> <p>AI: Electrical circuits, Demonstrate UKS2 Sp1 (Out of This World)</p> <p>Light and sight: Demonstrate UKS2 A2 (War and Conflict)</p> <p>Dodo Egg: properties of materials, Enquire, Classify and Compare, Demonstrate, Report, Predict UKS2 Sp2</p>
<ul style="list-style-type: none"> -Gather and record data -Show understanding by presenting knowledge in a variety of ways -Show understanding by presenting knowledge and data in a variety of ways 	<p>Report Demonstrate Recording data</p>	<p>Minibeasts - Enquire KS1 Su2 (Minibeasts)</p> <p>Earth, Sun and Moon: Report LKS2 A2 (Egyptians)</p> <p>Animals inc. humans - Skeletons and Muscles Report LKS2 A2 (Egyptians)</p>

		<p>Living things and their habitats - Report LKS2 S2 (Rainforests)</p> <p>Plants - Report LKS2 Sp2 (Rainforests)</p> <p>Light - Report LKS2 Su2 (Inventors)</p> <p>Circuits and Conductors - Report LKS2 Su2 (Inventors)</p> <p>States of Matter Report LKS2 Sp1 (Pirates)</p> <p>Animals inc. humans Nutrition - Report LKS2 Su1 (Tudors)</p> <p>Circulatory system: Report, PE fitness link demonstrating blood flow through the heart UKS2 Sp1 (Out of this World)</p> <p>AI: Electrical circuits: Report, UKS2 Sp1 (Out of This World)</p> <p>Dodo Egg: properties of materials, Enquire, Classify and Compare, Demonstrate, Report, Predict UKS2 Sp2</p>
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Science Curriculum Tracking Document

	KS1	LKS2	UKS2
A1	Castles	Charlie and The Chocolate Factory	Victorians
Sp1	Dinosaurs	Pirates	Out of this World
Su1	Seaside	The Tudors	Around the World
A2	Penguins	Egyptians	War and Conflict
Sp2	Wizards	Rainforests	Pompeii
Su2	Minibeasts	Ancient Greeks	Australia