An Daras Multi Academy Trust

St Stephens Community Academy

Curriculum Scheme of Learning – Science

Integrated Curriculum Scheme of Learning - 2015	
Domain of Learning:	**Science and Design Technology**
National Curriculum Subjects:	**Science**
Domain Leader:	**L. Lumby**
Agreed and Approved:	**Sept 2015**
Leader In Year Review Dates:	**Sept 2016**
Related Documents and Guidance:	National Curriculum 14 Dimensions Skill Ladders 14 SSCA Science Policy 15 SSCA Science Curriculum Statement 14/15 Rising Stars Progression Statement for Science 14 SSCA Aims for Pupils/Non-Negotiable 15 ADMAT Aims

St Stephens Community Academy **Science** *Scheme of Learning– 2015*	
Curriculum Statement	At St Stephens Community Academy, we believe that Science should enable pupils to be able to describe associated processes and key characteristics in common language, but they should also be familiar with, and use, technical terminology accurately and precisely. They should build up an extended specialist vocabulary. They should also apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data. The social and economic implications of science are important but, generally, they are taught most appropriately within the wider school curriculum: teachers will wish to use different contexts to maximise their pupils' engagement with and motivation to study science. In **Key Stage 1** children will learn to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos. In **Key Stage 2** children will learn to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out. **Progression in Science** will be assessed through work completed in pupils' books, for displays, written work and photographic evidence. Ability and attitude in Science is recorded on the child's annual report to parents, and discussed at parent/teacher meetings throughout the year.

Year Group	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
1 - Unit Title	**Reduce, Reuse, Recycle** **Everyday Materials**	**Celebrations** **Light and Dark** (old NC objectives)	**Near and Far** **Seasonal Changes**	**Gardeners World** **Plants**	**Myself and Other Animals** **Animals, including Humans**	**Up, Up and Away!** **Electricity** (old NC objectives)
A. Nat Curriculum 14	PP148-150	N/A	PP148-150	PP148-150	PP148-150	N/A
B. ADMAT Aims Link	Ensuring children are equipped for the next phase of learning.	Creating an enjoyable and creative curriculum that meets the learning needs of children.	Encouraging children's active participation in outdoor learning opportunities.	Encouraging children's active participation in outdoor learning opportunities.	Accelerating and sustaining children's progress towards higher achievement.	Accelerating and sustaining children's progress towards higher achievement.
C. SSCA Aims Link	1a, 2d, 3a, 4c, 4b	1b, 3e, 3f, 4a, 5d	2b, 2c, 4e, 5c	2f, 2g, 3d, 4d	1c, 1b, 1e, 2a, 3b	2e, 3c, 5b, 5a
D. Scheme Reference	N/A	N/A	N/A	N/A	N/A	N/A
E. Key Knowledge National Curriculum Learning Objectives	Pupils should be taught to: ✓ distinguish between an object and the material from which it is made ✓ identify and name a variety of everyday materials, including wood, plastic, glass, ✓ metal, water, and rock ✓ describe the simple physical properties of a variety of everyday materials ✓ compare and group together a variety of everyday materials on the basis of their simple physical properties.	Pupils should be taught: ✓ to identify different light sources, including the Sun ✓ that darkness is the absence of light	Pupils should be taught to: ✓ observe changes across the four seasons ✓ observe and describe weather associated with the seasons and how day length varies.	Working Scientifically: ✓ asking simple questions and recognising that they can be answered in different ways ✓ observing closely, using simple equipment Pupils should be taught to: ✓ identify and name a variety of common wild and garden plants, including deciduous and evergreen trees ✓ identify and describe the basic structure of a variety of common flowering plants, including trees.	Pupils should be taught to: ✓ identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals ✓ identify and name a variety of common animals that are carnivores, herbivores and omnivores ✓ describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) ✓ identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	Pupils should be taught: ✓ about everyday appliances that use electricity ✓ about simple series circuits involving batteries, wires, bulbs and other components [for ✓ example, buzzers, motors] ✓ how a switch can be used to break a circuit
F. Key Skills and Understanding Dimension Skills Ladder 2014	**SC5-**Identify and classify based on simple criteria	**SC4-**Make simple comparisons through observation	**SC4-**Make simple comparisons through observation	**SC1-**Suggest what might happen and perform simple tests **SC2-**Explore using senses and record findings in simple ways **SC3-**Collect evidence to try	**SC2-**Explore using senses and record findings in simple ways **SC4-**Make simple comparisons through observation	**SC1-**Suggest what might happen and perform simple tests **SC4-**Make simple comparisons through observation

				to answer a question **SC4-**Make simple comparisons through observation **SC5-**Identify and classify based on simple criteria		
G. Key Concepts Progression Framework (Rising Stars)	**Chemistry:** 2) Materials have physical properties which can be investigated and compared. 1.2.1, 1.2.2, 1.2.3, 1.2.4	Not in Rising Stars as old Curriculum Objectives	**Physics:** 2) Day, night, month, seasonal changed and year are caused by the position and movement of the earth. 1.2.1, 1.2.2	**Biology:** 4a) Life exists in a variety of forms and goes through cycles-Plants 1.4a.1, 1.41.2, 1.41.3	**Biology:** 4a) Life exists in a variety of forms and goes through cycles-Animals 1.4b.1, 1.4b.2 5) the human body has a number of systems, each with its own function 1.5.1, 1.5.2	Not in Rising Stars as old Curriculum Objectives
H. Cross Curricular Links Core non-negotiable standards	Use of ICT – to take pictures of their own models. DT- design and make models Literacy –write labels/captions about materials being used Maths – measuring models Geography – materials used to build different houses across the world.	Use of ICT – research nocturnal animals Literacy- write about researched nocturnal animals Maths – Sorting using 1 or more criteria/Venn and Carroll diagrams	Use of ICT – to record seasonal changes Geography – to look at seasonal changes across the world. Literacy – write about seasonal changes. Maths – to know months of the year, days of the month and the seasons. DT- make a simple sundial.	Use of ICT- Art – observation painting of plants/flowers Maths – sorting and classifying plants Literacy- write instructions on how to plant a seed. DT –Healthy Eating	Use of ICT –PPT presentation on different animals. Maths – sorting and classifying animals/Venn and Carroll diagrams Literacy – write about different animals found across the world.	Use of ICT- online circuit simulators (BBC) Literacy – uses of electricity (persuasions…why is electricity important) History – History of electricity
I. Assessment Pathway	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books

Year Group	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
2 - Unit Title	**Can we Fix it?** **Uses of everyday materials**	**Fire! Fire!** **Animals, including humans**	**Fantasy Island/Land Ahoy/Shiver Me Timbers** **Plants**	**Green Fingers** **Plants**	**Carnival of the Animals** **Living things and their habitats**	**Journeys/All aboard** **Forces** (old NC objectives and assessment)
A. Nat Curriculum 14	PP151-154	PP151-154	PP151-154	PP151-154	PP151-154	
B. ADMAT Aims Link	Working positively with stakeholders and partners to provide an integrated educational experience for children and families.	Creating an enjoyable and creative curriculum that meets the learning needs of children.	Encouraging children's active participation in outdoor learning opportunities.	Encouraging children's active participation in outdoor learning opportunities.	Creating an enjoyable and creative curriculum that meets the learning needs of children.	Ensuring children are equipped for the next phase of learning.
C. SSCA Aims Link	1a, 2e, 2f, 3a, 4d,	1c, 1d, 1e, 2g,4e, 5d	1b, 3b, 3c, 4a, 4f	2a, 2b, 3d, 4b, 4c	2c, 3e, 3f, 5c	2d, 3g, 4g, 5a, 5b
D. Scheme Reference	N/A	N/A	N/A	N/A	N/A	N/A
E. Key Knowledge National Curriculum Objectives	Pupils should be taught to: ✓ identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses ✓ find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	Pupils should be taught to: ✓ 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.	Working Scientifically: ✓ using their observations and ideas to suggest answers to questions ✓ gathering and recording data to help in answering questions. ✓ observing closely, using simple equipment ✓ performing simple tests Pupils should be taught to: ✓ observe and describe how seeds and bulbs grow into mature plants ✓ find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.		Pupils should be taught to: ✓ explore and compare the differences between things that are living, dead, and things that have never been alive ✓ identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other ✓ identify and name a variety of plants and animals in their habitats, including microhabitats ✓ describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different	Pupils should be taught: ✓ to find out about, and describe the movement of, familiar things [for example, cars going faster, slowing down, changing direction] ✓ that both pushes and pulls are examples of forces ✓ to recognise that when things speed up, slow down or change direction, there is a cause [for example, a push or a pull]

					sources of food.	
F. Key Skills and Understanding Dimension Skills Ladder 2014	**SC11-**Use simple scientific language **SC12-**Perform simple tests **SC13-**Record findings in various formats using standard units, drawings, diagrams, photographs, simple prepared formats such as tables and charts, tally charts, and displays **SC14-**Say whether what happened was what was expected and draw simple conclusions to help answer questions	**SC8**-Use first-hand observation, own experience and simple information sources to make comparisons and answer questions **SC11-**Use simple scientific language	**SC6**-Explore and observe in order to collect data and describe and compare findings **SC7-**With help, suggest some ideas and questions and predict what might happen **SC8**-Use first-hand observation, own experience and simple information sources to make comparisons and answer questions **SC9-**Observe closely using simple equipment **SC11-**Use simple scientific language **SC12-**Perform simple tests **SC13-**Record findings in various formats using standard units, drawings, diagrams, photographs, simple prepared formats such as tables and charts, tally charts, and displays **SC14-**Say whether what happened was what was expected and draw simple conclusions to help answer questions		**SC6**-Explore and observe in order to collect data and describe and compare findings **SC7-**With help, suggest some ideas and questions **SC9-**Observe closely using simple equipment **SC11-**Use simple scientific language **SC13-**Record findings in various formats using standard units, drawings, diagrams, photographs, simple prepared formats such as tables and charts, tally charts, and displays	**SC6**-Explore and observe in order to collect data and describe and compare findings **SC8**-Use first-hand observation, own experience and simple information sources to make comparisons and answer questions **SC11-**Use simple scientific language
G. Key Concepts Progression Framework (Rising Stars)	**Chemistry:** 2) Materials have physical properties which can be investigated and compared. 2.2.1 3) The Physical properties of materials determine their uses. 2.3.1	**Biology:** 5) The human body has a number of systems each with its own function. 2.5.1	**Biology:** 4a) Life exists in a variety of forms and goes through cycles – plants. 2.4a.1		**Biology:** 2) Habitats provide living things with what they need. 2.2.1, 2.2.2, 2.2.3, 2.2.4 4a) Life exists in a variety of forms and goes through cycles – Animals. 2.4b.1, 2.4b.2	Not in Rising Stars as old Curriculum Objectives
H. Cross Curricular Links Core non-negotiable standards	Maths - Literacy – Three Little Pigs, Instructions SMSC – Should the Little Pigs blow down the Big Bad wolves' house? Music – Making instruments out of recycled materials. Art – Printing using materials	Use of ICT – Researching Great Fire of London Maths Literacy – Non-Chronological text History – Great Fire of London DT – Building houses PE- Firework dancing. SMSC	Use of ICT Maths – Venn and Carroll diagrams for sorting/co-ordinates Literacy- Instructions on planting a seed, labelling a plant, writing up experiment SMSC- Something to do with pirates! Computing- Recording plant growth Art-Design own pirate flag DT – Healthy eating		Use of ICT Literacy – Non – chronological report on animals Maths – Venn and Carroll diagrams for sorting PE – moving like animals/gymnastics SMSC – Should animals be kept in zoos? Music – listen to the Carnival of the Animals Computing Geography – Animals across the world. DT – Animal Puppets	Use of ICT Maths – co-ordinates Literacy – Recount of a journey SMSC Computing – using iPads for Google Earth Geography – World knowledge. History – Famous Explorers
I. Assessment Pathway	Pupils Books	Pupils Books	Pupils Books	Pupils Books	Pupils Books	Pupils Books

	Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books

Year Group	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
3 – Unit Title	**Todo Sobre Espana!** **Light**	**Forces and Magnets**	**Fire to Forts** **Rocks**	**Plants**	**Egyptian Beliefs and Rituals** **Animals including Humans**	
A. Nat Curriculum 14	PP 157-160	PP 157-160	PP 157-160	PP 157-160	PP 157-160	PP 157-160
B. ADMAT Aims Link	Ensuring achievement gaps for disadvantaged children are addressed.	Providing for children a safe, stimulating, caring but challenging learning environment.	Creating an enjoyable and creative curriculum that meets the learning needs of children.	Encouraging children's active participation in outdoor learning opportunities.	Ensuring children are equipped for the next phase of learning.	
C. SSCA Aims Link	2c,3a, 3b, 3e, 5b	2a, 2b, 3c, 5a	1b, 2d, 2e, 3d, 4c	1a, 2f, 3f, 3g, 4a, 5c	1c, 1d, 1e, 2g, 4b, 5d	
D. Scheme Reference	N/A	N/A	N/A	N/A	N/A	N/A
E. Key Knowledge National Curriculum Objectives	Pupils should be taught to: ✓ recognise that they need light in order to see things and that dark is the absence of light ✓ notice that light is reflected from surfaces ✓ recognise that light from the sun can be dangerous and that there are ways to protect their eyes ✓ recognise that shadows are formed when the light from a light source is blocked by an opaque object ✓ find patterns in the way that the size of shadows change.	Working Scientifically: ✓ using straightforward scientific evidence to answer questions or to support their findings. Pupils should be taught to: ✓ compare how things move on different surfaces ✓ notice that some forces need contact between two objects, but magnetic forces can act at a distance ✓ observe how magnets attract or repel each other and attract some materials and not others ✓ compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials ✓ describe magnets as having two poles ✓ predict whether two magnets will attract	Working Scientifically: ✓ reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions Pupils should be taught to: ✓ compare and group together different kinds of rocks on the basis of their appearance and simple physical properties ✓ describe in simple terms how fossils are formed when things that have lived are trapped within rock ✓ recognise that soils are made from rocks and organic matter.	Working Scientifically: ✓ asking relevant questions and using different types of scientific enquiries to answer them ✓ setting up simple practical enquiries, comparative and fair tests ✓ recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Pupils should be taught to: ✓ identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers ✓ explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant ✓ investigate the way in	Working Scientifically: ✓ gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Pupils should be taught to: ✓ identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat ✓ identify that humans and some other animals have skeletons and muscles for support, protection and movement.	

		or repel each other, depending on which poles are facing.		✓ which water is transported within plants ✓ explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	
F. Key Skills and Understanding Dimension Skills Ladder 2014	**SC15-**Ask relevant questions **SC18-**Make careful observations and comparisons **SC2-** Discuss and describe findings **SC23-**Communicate findings using simple scientific language in written explanations, drawings, labelled diagrams, keys, bar charts or tables **SC24-**Use results to draw simple conclusions	**SC16-**With help, set up and carry out simple practical enquiries, comparative and fair tests **SC17-**Suggest what might happen in comparative and fair tests **SC18-**Make careful observations and comparisons **SC22-**Discuss and describe findings	**SC18-**Make careful observations and comparisons **SC22-**Discuss and describe findings **SC23-**Communicate findings using simple scientific language in written explanations, drawings, labelled diagrams, keys, bar charts or tables **SC24-**Use results to draw simple conclusions	**SC15-**Ask relevant questions **SC16-**With help, set up and carry out simple practical enquiries, comparative and fair tests **SC17-**Suggest what might happen in comparative and fair tests **SC18-**Make careful observations and comparisons **SC19-**Recognise what constitutes a fair test **SC20-**Identify simple patterns, changes, similarities and differences	**SC15-**Ask relevant questions **Sc18-**Make careful observations and comparisons **SC22-**Discuss and describe findings
G. Key Concepts Progression Framework (Rising Stars)	**Physics:** 3) Light and sound can be reflected and absorbed and enable us to see and hear. 3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.3.5	**Chemistry:** 2) Materials have physical properties which can be investigated and compared. 3.2.1 Physics: 1) There are contact and non-contact forces; these affect the motion of objects. 3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.1.5, 3.1.6	**Chemistry:** 1) Different rocks have different properties and the formation of soils and fossils can be explained. 3.1.1, 3.1.2	**Biology:** 4b) Life exists in a variety of ways and goes through cycles- plants. 3.41.1, 3.41.2, 3.41.3	**Biology:** 2) Habitats provide living things with what they need. 3.2.1 4b) Life exists in a variety of ways and goes through cycles- animals. 3.4b.1 5) The human body has a number of systems, each with its own function. 3.5.1
H. Cross Curricular Links Core non-negotiable standards	Use of ICT Literacy- Maths – light sources in chronological order Computing Art – Colour Wheels History – Lighthouses (how	Use of ICT Literacy – write up of an experiment, explanation texts about magnets Maths – Sorting using Venn/Carroll	Use of ICT Literacy – labelling different rock formations. Maths – Sorting using Venn/Carroll, classification keys Computing – recording	Use of ICT Literacy- information/explanation about uses of plants. Labelling a plant. Maths DT – Healthy eating	Use of ICT Literacy – writing about nutrition. Maths - Sorting using Venn/Carroll, classification keys Computing – Presentation about different animals. Geography- animals across the world. History – Evolution/adaption

	important they were), light sources RE – festivals of light		findings Geography – Rock formations	Geography- plants across the world.		
I. Assessment Pathway	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books

Year Group	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
4 – Unit Title	**It's all Greek** **Living things and their habitats**	**Water, Water Everywhere** **Sound**	**Carbon Footprint** **States of Matter**	**Eco Warriors** **Animals, including Humans**	**Who were the Romans?** **Electricity**	
A. Nat Curriculum 14	PP 161-164	PP 161-164	PP 161-164	PP 161-164	PP 161-164	PP 161-164
B. ADMAT Aims Link	Accelerating and sustaining children's progress towards higher achievement.	Ensuring achievement gaps for disadvantaged children are addressed.	Providing for children a safe, stimulating, caring but challenging learning environment.	Working positively with stakeholders and partners to provide an integrated educational experience for children and families.	Ensuring children are equipped for the next phase of learning.	
C. SSCA Aims Link	1b, 2c, 3a, 3c, 4c, 4d	2a, 2b,3b, 3g, 4a, 5c	2d, 2g, 3e, 4b, 5b	1c, 1d, 1e, 2e, 3d	1a, 2f, 3f, 4e, 5d, 5a	
D. Scheme Reference	N/A	N/A	N/A	N/A	N/A	N/A
E. Key Knowledge National Curriculum Objectives	Pupils should be taught to: ✓ recognise that living things can be grouped in a variety of ways ✓ explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment ✓ recognise that environments can change and that this can sometimes pose dangers to living things.	Working Scientifically: ✓ identifying differences, similarities or changes related to simple scientific ideas and processes Pupils should be taught to: ✓ 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	Working Scientifically: ✓ making systematic and careful observations and, where appropriate, taking accurate ✓ measurements using standard units, using a range of equipment, including thermometers and data loggers Pupils should be taught to: ✓ compare and group materials together, according to whether they are solids, liquids or gases ✓ observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) ✓ identify the part played by evaporation and condensation in the	Pupils should be taught to: ✓ describe the simple functions of the basic parts of the digestive system in humans ✓ identify the different types of teeth in humans and their simple functions ✓ construct and interpret a variety of food chains, identifying producers, predators and prey.	Working Scientifically: ✓ setting up simple practical enquiries, comparative and fair tests ✓ using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions ✓ Pupils should be taught to: ✓ identify common appliances that run on electricity ✓ construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers ✓ identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery ✓ recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit ✓ recognise some common conductors and insulators, and associate metals with being good conductors.	

		increases.	water cycle and associate the rate of evaporation with temperature.		
F. Key Skills and Understanding Dimension Skills Ladder 2014	**SC27-**Make close observations and comparisons **SC28-**Observe patterns and suggest explanations **SC29-**Collect data **SC36-**Report on what the evidence shows through written explanations of results and conclusions and reports **SC37**-Use results to draw simple conclusions, suggest improvements and raise further questions	**SC25-**Set up and carry out simple practical enquiries, comparative and fair tests **SC26-**Put forward ideas about testing and make **SC27-**Make close observations and comparisons **SC28-**Observe patterns and suggest explanations **SC32-**Make accurate measurements using standard units and begin to think about why measurements should be repeated	**SC25-**Set up and carry out simple practical enquiries, comparative and fair tests **SC26-**Put forward ideas about testing and make predictions **SC29-**Collect data **SC30-**Recognise and explain why a test is fair or unfair **SC31**-Identify simple trends to answer questions **SC34-**Use a range of equipment, including data loggers and thermometers **SC35-**Gather and record findings through drawings, photographs, labelled diagrams, keys, models, presentations, tables, graphs and displays, using scientific language **SC36-**Report on what the evidence shows through written explanations of results and conclusions and reports	**SC27-**Make close observations and comparisons **SC28-**Observe patterns and suggest explanations **SC29-**Collect data **SC33-**Use scientific evidence to answer questions	**SC25-**Set up and carry out simple practical enquiries, comparative and fair tests **SC26-**Put forward ideas about testing and make predictions **SC29-**Collect data **SC30-**Recognise and explain why a test is fair or unfair **SC34-**Use a range of equipment, including data loggers and thermometers **SC36-**Report on what the evidence shows through written explanations of results and conclusions and reports **SC37**-Use results to draw simple conclusions, suggest improvements and raise further questions
G. Key Concepts Progression Framework (Rising Stars)	**Biology:** 1) Living things can be classified according to observable features. 4.1.1, 4.1.2 2) Habitats provide living things with what they need. 4.2.1	**Physics:** 3) Light and sounds can be reflected and absorbed and enable us to see and hear. 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5	**Chemistry:** 2) Materials have physical properties which can be investigated and prepared, 4.2.1 4) Materials can exist in different states and that these states can sometimes change. 4.4.1, 4.4.2	**Biology:** 5) The human body has a number of systems each with its own function. 4.5.1, 4.5.2, 4.5.3	**Physics:** 4) Electricity can make circuits work and can be controlled to perform useful functions. 4.4.1, 4.4.2, 4.4.3, 4.4.4, 4.4.5
H. Cross Curricular Links Core non-negotiable standards	Literacy –writing about observations. Maths – Classification of animals Computing	Literacy – writing up experiments. Maths- data handling. Computing – using equipment to measure	Literacy –labelling using scientific language Maths – data handling (graph showing results)	Literacy – writing about findings Maths – Sorting and classifying. Computing – research	Literacy –Writing up experiments Computing – Using interactive simulations to build more complex circuits History – history of electricity DT – Make a product which needs an electric circuit.

	Geography- animals across the world/different habitats History – adaption.	sound. Music – Listening		Geography – animals across the world.		
I. Assessment Pathway	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books

Year Group	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
5 – Unit Title	**Invaders**		**Where does chocolate come from?**		**Who were the Mayans?**	
	Properties and changes of materials		**Living things and their habitats**	**Earth and Space**	**Animals, including Humans**	**Forces**
A. Nat Curriculum 14	PP 168-171	PP 168-171	PP 168-171	PP 168-171	PP 168-171	PP 168-171
B. ADMAT Aims Link	Creating an enjoyable and creative curriculum that meets the learning needs of children.		Providing for children a safe, stimulating, caring but challenging learning environment.	Accelerating and sustaining children's progress towards higher achievement.	Ensuring achievement gaps for disadvantaged children are addressed.	Ensuring children are equipped for the next phase of learning.
C. SSCA Aims Link	1a, 1b, 2a, 2g, 3b, 5c, 5d		2e, 3a, 2e, 4a, 5b	2b, 2c, 3c, 3d, 4b, 5a	1c, 1d, 1e, 2d, 4e	2f, 2g, 4c, 4d, 5e
D. Scheme Reference	N/A	N/A	N/A	N/A	N/A	N/A
E. Key Knowledge National Curriculum Objectives	Working Scientifically: ✓ 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 Pupils should be taught to: ✓ 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 changes associated with burning and the action of acid on bicarbonate of soda.		Pupils should be taught to: ✓ 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.	Pupils should be taught to: ✓ describe the movement of the Earth, and other planets, relative to the Sun in the solar system ✓ describe the movement of the Moon relative to the Earth ✓ describe the Sun, Earth and Moon as approximately spherical bodies ✓ use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	Pupils should be taught to: ✓ describe the changes as humans develop to old age.	Working Scientifically: ✓ 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 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. Pupils should be taught to: ✓ explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object ✓ identify the effects of

					air resistance, water resistance and friction, that act between moving surfaces ✓ recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.
F. Key Skills and Understanding Dimension Skills Ladder 2014	**SC38-**Plan different types of scientific investigations **SC39-**Make predictions based on scientific knowledge **SC41**-Begin to recognise and control variables where appropriate during investigations **SC42-**Identify trends and patterns and offer explanations for these **SC43-**Carry out a fair test explaining why it is fair **SC44-**Take measurements using a range of scientific equipment with increasing accuracy and precision **SC45-**Understand why observations and measurements need to be repeated **SC47**-Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs **SC48-**Produce written explanations of results, causal explanations and conclusions **SC49-**Use results to make predictions for further tests	**SC39-**Make predictions based on scientific knowledge **SC42-**Identify trends and patterns and offer explanations for these **SC45-**Understand why observations and measurements need to be repeated **SC46**-Select information from provided sources	**SC39-**Make predictions based on scientific knowledge **SC42-**Identify trends and patterns and offer explanations for these **SC45-**Understand why observations and measurements need to be repeated **SC46**-Select information from provided sources	**SC40-**Carry out a range of scientific investigations **SC41**-Begin to recognise and control variables where appropriate during investigations **SC44-**Take measurements using a range of scientific equipment with increasing accuracy and precision	**SC38-**Plan different types of scientific investigations **SC39-**Make predictions based on scientific knowledge **SC40-**Carry out a range of scientific investigations **SC43-**Carry out a fair test explaining why it is fair **SC48-**Produce written explanations of results, causal explanations and conclusions
G. Key Concepts Progression Framework (Rising Stars)	**Chemistry:** 2) Materials have physical properties which can be investigated and compared. 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5 3) The physical properties of materials determine their uses. 5.3.1	**Biology:** No Rising Stars content for this in year 5	**Physics:** Day, night, moth, seasonal changes and year are caused by the position and movement of the Earth. 5.2.1, 5.2.2, 5.2.3, 5.2.4	**Biology:** 4a) Life exists in a variety of forms and goes through cycles – Animals. 5.4b.1, 5.4b.2 5) The human body has a number of systems, each with its own functions. 5.5.1	**Physics:** 1) There are contact and non-contact forces; these affect the motion of objects. 5.1.1, 5.1.2, 5.1.3
H. Cross Curricular Links Core non-negotiable standards	Literacy – writing up of experiments Maths- compare, group and sort materials, tables showing experiment results. Computing – present findings	Literacy – writing up of a life cycle Maths – sorting and classifying Computing – using for research Geography – looking at	Literacy – description of the planets Maths – days, months and seasons. Measurements and sizes, distances between planets. Computing – simulating	Literacy –Writing up experiments Maths – measuring height, BPM, Computing History – Mayans	Literacy- writing up findings Maths – tables/graphs showing the results of an experiment. Computing DT – mechanisms

			different habitats across the world.	orbits. Space ICT –Google Earth (night and day) simulators. Geography – Night and day/seasons in different parts of the world. Art – Pictures of planets		
I. Assessment Pathway	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books

Year Group	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
6 – Unit Title	**The World at War**		**Post War Britain**		**Earth Matters**	
	Electricity	**Light**	**Animals including humans**	**Living things and their habitats**	**Living things and their habitats**	**Evolution and inheritance**
A. Nat Curriculum 14	PP172-175	PP172-175	PP172-175	PP172-175	PP172-175	PP172-175
B. ADMAT Aims Link	Creating an enjoyable and creative curriculum that meets the learning needs of children.	Accelerating and sustaining children's progress towards higher achievement.	Providing for children a safe, stimulating, caring but challenging learning environment.	Encouraging children's active participation in outdoor and sporting learning opportunities.		Ensuring children are equipped for the next phase of learning.
C. SCCA Aims Link	1b, 2e, 2g, 3a,4a, 5c	2a,2f, 4e, 4b, 5d	1c, 1d, 1e, 2b, 4c	1a, 2c, 3b, 3f, 4d, 5b		2d, 3c, 3d, 4e, 5a
D. Scheme Reference	N/A	N/A	N/A	N/A	N/A	N/A
E. Key Knowledge National Curriculum Objectives	Working Scientifically: ✓ 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 Pupils should be taught to: ✓ associate the brightness of a lamp	Working Scientifically: ✓ reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations Pupils should be taught to: ✓ recognise that light appears to travel in straight lines ✓ use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye ✓ explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes	Working Scientifically: ✓ reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations Pupils should be taught to: ✓ identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood ✓ recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function ✓ describe the ways in which nutrients and water are transported within animals, including humans.	Working Scientifically: ✓ Identifying scientific evidence that has been used to support or refute ideas or arguments. Pupils should be taught to: ✓ describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals ✓ give reasons for classifying plants and animals based on specific characteristics.		Pupils should be taught to: ✓ recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago ✓ recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents ✓ identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution

	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.	✓ use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.			
F. Key Skills and Understanding Dimension Skills Ladder 2014	**SC50-**Select and plan the most appropriate type of scientific enquiry to answer specific questions **SC51**-Make predictions based on scientific knowledge and understanding **SC52-**Carry out a range of scientific investigations **SC55-**Take measurements using a range of scientific equipment with accuracy and precision **SC60-**Present reports of findings in written form, displays and presentations	**SC54-**Identify scientific evidence that has been used to support or refute ideas **SC56-**Decide when observations and measurements need to be checked, by repeating, to give more reliable data **SC57**-Select information from a range of sources	**SC52-**Carry out a range of scientific investigations **SC53-**Recognise and control variables where appropriate during investigations **SC54-**Identify scientific evidence that has been used to support or refute ideas **SC57**-Select information from a range of sources **SC60-**Present reports of findings in written form, displays and presentations	**SC50-**Select and plan the most appropriate type of scientific enquiry to answer specific questions **SC51**-Make predictions based on scientific knowledge and understanding **SC54-**Identify scientific evidence that has been used to support or refute ideas **SC56-**Decide when observations and measurements need to be checked, by repeating, to give more reliable data **SC57**-Select information from a range of sources **SC59-**Reporting findings from investigations, including written explanations of results, explanation involving causal relationships, and conclusions	**SC51**-Make predictions based on scientific knowledge and understanding **SC52-**Carry out a range of scientific investigations **SC54-**Identify scientific evidence that has been used to support or refute ideas **SC56-**Decide when observations and measurements need to be checked, by repeating, to give more reliable data **SC57**-Select information from a range of sources
G. Key Concepts Progression Framework (Rising Stars)	**Physics:** 4) Electricity can make circuits work and can be controlled to perform useful functions. 6.4.1, 6.4.2, 6.4.3	**Physics:** Light and sound can be reflected and absorbed and enable us to see and hear. 6.3.1, 6.3.2, 6.3.3, 6.3.4	**Biology:** 5) The human body has a number of systems, each with its own function. 6.5.1, 6.5.2, 6.5.3	**Biology:** 1) Living things can be classified according to observable features. 6.1.1, 6.1.2	**Biology:** 3) Living things exhibit variation and adaption and these may lead to evolution. 6.3.1, 6.3.2, 6.3.3
H. Cross Curricular Links Core non-negotiable standards	Literacy – writing up results. Maths – using rulers/accurate	Literacy –read evidence from a range of sources. Maths History – history of light.	Literacy – write up of findings Maths - History – medicine in	Literacy- writing a key, yes/no answer questions. Maths – classifying and sorting animals and plants Geography – habitats across the world. How habitats are adapted for purpose	Literacy – write up of information found. Maths History – adaption over

	measurements when drawing circuits. History/DT – black out curtains History/DT- make an alarm system!	use of search lights. Art – Camouflage Dt – different materials to stop reflected light.	history DT – healthy eating Art – Anatomical drawings			time/fossils Geography- how different plants and animals across the world are adapted to their different habitats.
I. Assessment Pathway	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books	Pupils Books Photographic Evidence Multi Media Evidence Observational Notes Concept Mapping Floor Books