



An Daras Multi Academy Trust

Windmill Hill Academy

Curriculum Scheme of Learning – Science

Integrated Curriculum Scheme of Learning - 2015	
Scheme of Learning:	Science
National Curriculum Subjects:	Science
Domain Leader:	S. Jones
Agreed and Approved:	Jan 2019
Leader In Year Review Dates:	Jan 2021
Related Documents and Guidance:	National Curriculum 14 Dimensions Skill Ladders 14 WHA Science Policy 15 WHA Science Curriculum Statement 14/15 Rising Stars Progression Statement for Science 14 WHA Aims for Pupils/Non-Negotiable 15 ADMAT Aims

Curriculum Statement

At Windmill Hill Academy, an enriched science curriculum that provides opportunities for practical lessons on a weekly basis is key. Learners are exposed to a wide variety of topics that support their curiosity for learning. Our curriculum aims to broaden the learners' scientific view of the world around them, whilst promoting a love for enquiry and wanting to explore new things.

Below you will find an overview of what your child will be expected to learn in each of the Key Stages.

Key stage 1

The principal focus of science teaching in key stage 1 is to enable learners 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.

Lower key stage 2 – years 3-4

The principal focus of science teaching in lower key stage 2 is to enable learners 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.

Upper key stage 2 – years 5-6

The principal focus of science teaching in upper key stage 2 is to enable learners to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Learners should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

Year Group	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
KS1 - Year A Unit Title	<u>Shiver Me Timbers</u> Y1: Seasonal Changes Y2: Living Things and their Habitats	<u>Bright Sparks</u> Y1: Every day Materials Y2: Uses of Everyday Materials	<u>Can we Fix it? Yes we Can!</u> Y1: Every day Materials Y2: Uses of Everyday Materials	<u>Walking in the Jungle</u> Y1 Plants Y2: Animals including Humans	<u>Let's Cook</u> Y1: Plants Y2: Plants	<u>Oh I do like to be by the Seaside</u> Y1: Animals including Humans Y2: Plants
A. Nat Curriculum 14	N/A KS1 P146-47	N/A- KS1 P146-47	N/A- KS1 P146-47	N/A- KS1 P146-47	N/A- KS1 P146-47	N/A- KS1 P146-47
B. Academy Aims Link	ADMAT: 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. Creating an enjoyable and creative curriculum that meets the learning needs of children. Providing for children a safe, stimulating, caring but challenging learning environment. WHA: Create Challenge Develop Citizenship Encourage Creativity	ADMAT: 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. Creating an enjoyable and creative curriculum that meets the learning needs of children. Providing for children a safe, stimulating, caring but challenging learning environment. WHA: Create Challenge Develop Citizenship Encourage Creativity	ADMAT: 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. Creating an enjoyable and creative curriculum that meets the learning needs of children. Providing for children a safe, stimulating, caring but challenging learning environment. WHA: Create Challenge Develop Citizenship Encourage Creativity	ADMAT: 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. Creating an enjoyable and creative curriculum that meets the learning needs of children. Providing for children a safe, stimulating, caring but challenging learning environment. WHA: Create Challenge Develop Citizenship Encourage Creativity	ADMAT: 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. Creating an enjoyable and creative curriculum that meets the learning needs of children. Providing for children a safe, stimulating, caring but challenging learning environment. WHA: Create Challenge Develop Citizenship Encourage Creativity	ADMAT: 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. Creating an enjoyable and creative curriculum that meets the learning needs of children. Providing for children a safe, stimulating, caring but challenging learning environment. WHA: Create Challenge Develop Citizenship Encourage Creativity
C. Scheme Reference	Windmill Project Planning	Windmill Project Planning	Windmill Project Planning	Windmill Project Planning	Windmill Project Planning	Windmill Project Planning
D. Key Knowledge	Y1: To observe and talk about changes in the weather and the seasons. Y2: To raise and answer questions that help them to become familiar with the life processes that are common to all living things.	Y1: To explore, name, discuss and raise and answer questions about everyday materials so that they become familiar with the names of materials and properties. Y2: To identify and discuss the uses of different everyday materials so that they become familiar with how some materials are	Y1: To explore and experiment with a wide variety of materials, not only those listed in the programme of study. Y2: To think about the properties of materials that make them suitable or unsuitable for particular purposes and be encouraged to think about unusual and creative uses	Y1: To use the local environment throughout the year to explore and answer questions about plants growing in their habitat. Y2: To be introduced to the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans.	Y1: To use the local environment throughout the year to explore and answer questions about plants growing in their habitat. To become familiar with common names of flowers, Y2: To use the local environment throughout the year to observe how	Y1: To use the local environment throughout the year to explore and answer questions about animals in their habitat. Understand how to take care of animals taken from their local environment and the need to return them safely after study. Become familiar with the

		used for more than one thing or different materials are used for the same thing .	for everyday materials.	To be introduced to the processes of reproduction and growth in animals.	different plants grow. Be introduced to the requirements of plants for germination, growth and survival, as well as to the processes of reproduction and growth in plants.	common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets. To learn the names of the main body parts Y2: To use the local environment throughout the year to observe how different plants grow. Be introduced to the requirements of plants for germination, growth and survival, as well as to the processes of reproduction and growth in plants.
E Skills and Understanding Subject Content- Programme of Study	<p>Seasonal Changes Observe changes across the four seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p> <p>Living Things and their Habitats Explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>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.</p>	<p>Everyday Materials Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p>Uses of Everyday Materials Identify and compare the suitability of a variety of everyday materials, including wood, metal,</p>	<p>Everyday Materials Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p>Uses of Everyday Materials Identify and compare the suitability of a variety of everyday materials, including wood, metal,</p>	<p>Plants Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Animals Including Humans Notice that animals, including humans, have offspring which grow into adults.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of</p>	<p>Plants Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Plants Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>Animals including humans Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>Plants Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>

	<p>Identify and name a variety of plants and animals in their habitats, including micro-habitats.</p> <p>Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p>	<p>plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>different types of food, and hygiene.</p>		
F. Skills and Understanding Subject Content- Programme of Study- Non Statutory	<p>Seasonal Changes Observe and talk about changes in the weather and the seasons.</p> <p>Living Things and their Habitats Be introduced to the idea that all living things have certain characteristics that are essential for keeping them alive and healthy.</p> <p>Raise and answer questions that help them to become familiar with the life processes that are common to all living things.</p> <p>Be introduced to the terms 'habitat' and 'micro-habitat'.</p> <p>Raise and answer questions about the local environment that help them to identify and study a variety of plants and animals within their habitat and observe how living things depend on each other.</p> <p>Compare animals in</p>	<p>Everyday Materials Explore, name, discuss and raise and answer questions about everyday materials so that they become familiar with the names of materials and properties such as: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent.</p> <p>Explore and experiment with a wide variety of materials, not only those listed in the programme of study, but including for example: brick, paper, fabrics, elastic, foil.</p> <p>Uses of Everyday Materials Identify and discuss the uses of different everyday materials so that they become familiar with how some materials are used for more than one thing or different materials are used for the same thing.</p> <p>Think about the properties</p>	<p>Everyday Materials Explore, name, discuss and raise and answer questions about everyday materials so that they become familiar with the names of materials and properties such as: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent.</p> <p>Explore and experiment with a wide variety of materials, not only those listed in the programme of study, but including for example: brick, paper, fabrics, elastic, foil.</p> <p>Uses of Everyday Materials Identify and discuss the uses of different everyday materials so that they become familiar with how some materials are used for more than one thing or different materials are used for the same thing.</p> <p>Think about the properties</p>	<p>Plants Use the local environment throughout the year to explore and answer questions about plants growing in their habitat.</p> <p>Observe the growth of flowers and vegetables that they have planted.</p> <p>Animals Including Humans Be introduced to the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans.</p> <p>Be introduced to the processes of reproduction and growth in animals. The focus at this stage should be on questions that help pupils to recognise growth; they should not be expected to understand how reproduction occurs.</p>	<p>Plants Use the local environment throughout the year to explore and answer questions about plants growing in their habitat.</p> <p>Observe the growth of flowers and vegetables that they have planted.</p> <p>Plants Use the local environment throughout the year to observe how different plants grow.</p> <p>Be introduced to the requirements of plants for germination, growth and survival, as well as to the processes of reproduction and growth in plants.</p>	<p>Animals including humans Use the local environment throughout the year to explore and answer questions about animals in their habitat.</p> <p>Understand how to take care of animals taken from their local environment and the need to return them safely after study.</p> <p>Become familiar with the common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets.</p> <p>Plants Use the local environment throughout the year to observe how different plants grow.</p> <p>Be introduced to the requirements of plants for germination, growth and survival, as well as to the processes of reproduction and growth in plants.</p>

	familiar habitats with animals found in less familiar habitats.	of materials that make them suitable or unsuitable for particular purposes and they should be encouraged to think about unusual and creative uses for everyday materials. Pupils might find out about people who have developed useful new materials, for example John Dunlop, Charles Macintosh or John McAdam.	of materials that make them suitable or unsuitable for particular purposes and they should be encouraged to think about unusual and creative uses for everyday materials. Pupils might find out about people who have developed useful new materials, for example John Dunlop, Charles Macintosh or John McAdam.			
G. Key Skills and Understanding - Year 1 Working Scientifically	<p>WS - Asking simple questions and recognising that they can be answered in different ways</p> <p>Observing closely, using simple equipment</p> <p>Performing simple tests</p> <p>Using their observations and ideas to suggest answers to questions</p> <p>Gathering and recording data to help in answering questions.</p>	<p>WS - Asking simple questions and recognising that they can be answered in different ways</p> <p>Observing closely, using simple equipment</p> <p>Performing simple tests</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Gathering and recording data to help in answering questions.</p>	<p>WS - Asking simple questions and recognising that they can be answered in different ways</p> <p>Observing closely, using simple equipment</p> <p>Performing simple tests</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Gathering and recording data to help in answering questions.</p>	<p>WS Asking simple questions and recognising that they can be answered in different ways.</p> <p>Observing closely, using simple equipment.</p> <p>Performing simple tests.</p> <p>Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p>	<p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Observing closely, using simple equipment.</p> <p>Performing simple tests.</p> <p>Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p>	<p>WS Asking simple questions and recognising that they can be answered in different ways.</p> <p>Performing simple tests.</p> <p>Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Gathering and recording data to help in answering questions.</p>
H. Key Skills and Understanding - Year 1 Working Scientifically- Non Statutory	Make tables and charts about the weather; and make displays of what happens in the world around them, including day length, as the seasons change.	Perform simple tests to explore questions.	Perform simple tests to explore questions.	<p>Observe closely and compare and contrast familiar plants; describing how they were able to identify and group them, and drawing diagrams showing the parts of different plants including trees.</p> <p>Record how plants have changed over time and compare and contrast what they have found out about</p>	<p>Observe closely and compare and contrast familiar plants; describing how they were able to identify and group them, and drawing diagrams showing the parts of different plants including trees.</p> <p>Record how plants have changed over time and compare and contrast what they have found out about</p>	Use their observations to compare and contrast animals at first hand or through videos and photographs, describing how they identify and group them; grouping animals according to what they eat; and using their senses to compare different textures, sounds and smells.

I. Key Skills and Understanding - Year 2 Working Scientifically	<p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Observing closely, using simple equipment.</p> <p>Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p>	<p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Performing simple tests.</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Gathering and recording data to help in answering questions.</p>	<p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Performing simple tests.</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Gathering and recording data to help in answering questions.</p>	<p>different plants.</p> <p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Performing simple tests.</p> <p>Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Gathering and recording data to help in answering questions.</p>	<p>different plants.</p> <p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Observing closely, using simple equipment.</p> <p>Performing simple tests.</p> <p>Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p>	<p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Observing closely, using simple equipment.</p> <p>Performing simple tests.</p> <p>Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p>
J. Key Skills and Understanding - Year 2 Working Scientifically- Non Statutory	<p>Sort and classifying things according to whether they are living, dead or were never alive, and recording their findings using charts.</p> <p>Construct a simple food chain that includes humans</p> <p>Describe the conditions in different habitats and micro-habitats (under log, on stony path, under bushes) and find out how the conditions affect the number and type(s) of plants and animals that live there.</p>	<p>Compare the uses of everyday materials in and around the school with materials found in other places.</p> <p>Observe closely, identifying and classifying the uses of different materials, and recording their observations.</p>	<p>Compare the uses of everyday materials in and around the school with materials found in other places.</p> <p>Observe closely, identifying and classifying the uses of different materials, and recording their observations.</p>	<p>Observe, through video or first-hand observation and measurement, how different animals, including humans, grow; asking questions about what things animals need for survival and what humans need to stay healthy; and suggesting ways to find answers to their questions.</p>	<p>Observe and record, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing similar plants at different stages of growth; setting up a comparative test to show that plants need light and water to stay healthy.</p>	<p>Observe and record, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing similar plants at different stages of growth; setting up a comparative test to show that plants need light and water to stay healthy.</p>
K. Cross Curricular Links (Core non-negotiable standards)	Use of ICT Links with Project. Links with English and the spoken word. Links with maths and understanding of measurement.	Use of ICT Link with Project. Links to Design Technology and creativity. Link to Maths and understanding of number.	Use of ICT Link with Project and Links to Design Technology.	Use of ICT Links with Project and understanding of where jungles can be found in the world. Links with English with understanding what a question.	Use of ICT Links with project. Links with maths and recording of data. Links to PSHCE and healthy eating.	Use of ICT Links to Project. Links to English and non-chronological reports. Links to PSHCE and the need to care for the environment.
L. Assessment Pathway	Elicitation task (at the	Elicitation task (at the	Elicitation task (at the	Elicitation task (at the	Elicitation task (at the	Elicitation task (at the

	beginning of a unit) On-going teacher assessment of knowledge skills and understanding End of unit assessment	beginning of a unit) On-going teacher assessment of knowledge skills and understanding End of unit assessment	beginning of a unit) On-going teacher assessment of knowledge skills and understanding End of unit assessment	beginning of a unit) On-going teacher assessment of knowledge skills and understanding End of unit assessment	beginning of a unit) On-going teacher assessment of knowledge skills and understanding End of unit assessment	beginning of a unit) On-going teacher assessment of knowledge skills and understanding End of unit assessment
Year Group	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2

KS1 - Year B Unit Title	<u>All Aboard!</u> Y1: Seasonal Changes Y2: Uses of Everyday Materials	<u>Superheros!</u> Y1: Everyday Materials Y2: Uses of Everyday Materials	<u>Walking with the Dinosaurs</u> Y1: Everyday Materials Y2: Plants	<u>Green Fingers</u> Y1: Plants Y2: Plants	<u>Walking in Windmill Woods</u> Y1: Plants Y2: Living things Habitats	<u>Knights and Dragons</u> Y1: Animals including Humans Y2: Animals Including Humans
A. Nat Curriculum 14	N/A KS1 P146-47	N/A KS1 P146-47	N/A KS1 P146-47	N/A KS1 P146-47	N/A KS1 P146-47	N/A KS1 P146-47
B. Academy Aims Link	ADMAT: 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. Creating an enjoyable and creative curriculum that meets the learning needs of children. Providing for children a safe, stimulating, caring but challenging learning environment. WHA: Create Challenge Develop Citizenship Encourage Creativity	ADMAT: 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. Creating an enjoyable and creative curriculum that meets the learning needs of children. Providing for children a safe, stimulating, caring but challenging learning environment. WHA: Create Challenge Develop Citizenship Encourage Creativity	ADMAT: 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. Creating an enjoyable and creative curriculum that meets the learning needs of children. Providing for children a safe, stimulating, caring but challenging learning environment. WHA: Create Challenge Develop Citizenship Encourage Creativity	ADMAT: 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. Creating an enjoyable and creative curriculum that meets the learning needs of children. Providing for children a safe, stimulating, caring but challenging learning environment. WHA: Create Challenge Develop Citizenship Encourage Creativity	ADMAT: 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. Creating an enjoyable and creative curriculum that meets the learning needs of children. Providing for children a safe, stimulating, caring but challenging learning environment. WHA: Create Challenge Develop Citizenship Encourage Creativity	ADMAT: 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. Creating an enjoyable and creative curriculum that meets the learning needs of children. Providing for children a safe, stimulating, caring but challenging learning environment. WHA: Create Challenge Develop Citizenship Encourage Creativity
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		for everyday materials. .	and growth in plants.	processes of reproduction and growth in plants.		birds and mammals, including those that are kept as pets. To learn the names of the main body parts Y2: To be introduced to the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans. To be introduced to the processes of reproduction and growth in animals.
E Skills and Understanding Subject Content- Programme of Study	<p>Seasonal Changes Observe changes across the four seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p> <p>Uses of Everyday Materials Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Everyday Materials Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p>Uses of Everyday Materials Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p>	<p>Everyday Materials Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p>Plants Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature</p>	<p>Plants Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Plants Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>Plants Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Living Things and their Habitats Explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>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.</p>	<p>Animals including humans Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>Animals Including Humans Notice that animals, including humans, have offspring which grow into adults.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>

		Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	to grow and stay healthy.		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.	
F. Skills and Understanding Subject Content- Programme of Study- Non Statutory	<p>Seasonal Changes Observe and talk about changes in the weather and the seasons.</p> <p>Uses of Everyday Materials Identify and discuss the uses of different everyday materials so that they become familiar with how some materials are used for more than one thing or different materials are used for the same thing.</p> <p>Think about the properties of materials that make them suitable or unsuitable for particular purposes and they should be encouraged to think about unusual and creative uses for everyday materials.</p> <p>Pupils might find out about people who have developed useful new materials, for example John Dunlop, Charles Macintosh or John McAdam.</p>	<p>Everyday Materials Explore, name, discuss and raise and answer questions about everyday materials so that they become familiar with the names of materials and properties such as: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent.</p> <p>Explore and experiment with a wide variety of materials, not only those listed in the programme of study, but including for example: brick, paper, fabrics, elastic, foil.</p> <p>Uses of Everyday Materials Identify and discuss the uses of different everyday materials so that they become familiar with how some materials are used for more than one thing or different materials are used for the same thing.</p> <p>Think about the properties</p>	<p>Everyday Materials Explore, name, discuss and raise and answer questions about everyday materials so that they become familiar with the names of materials and properties such as: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent.</p> <p>Explore and experiment with a wide variety of materials, not only those listed in the programme of study, but including for example: brick, paper, fabrics, elastic, foil.</p> <p>Plants Use the local environment throughout the year to observe how different plants grow.</p> <p>Be introduced to the requirements of plants for germination, growth and survival, as well as to the processes of reproduction</p>	<p>Plants Use the local environment throughout the year to explore and answer questions about plants growing in their habitat.</p> <p>Observe the growth of flowers and vegetables that they have planted.</p> <p>Plants Use the local environment throughout the year to observe how different plants grow.</p> <p>Be introduced to the requirements of plants for germination, growth and survival, as well as to the processes of reproduction and growth in plants.</p>	<p>Plants Use the local environment throughout the year to explore and answer questions about plants growing in their habitat.</p> <p>Observe the growth of flowers and vegetables that they have planted.</p> <p>Living Things and their Habitats Be introduced to the idea that all living things have certain characteristics that are essential for keeping them alive and healthy.</p> <p>Raise and answer questions that help them to become familiar with the life processes that are common to all living things.</p> <p>Be introduced to the terms 'habitat' and 'micro-habitat'.</p> <p>Raise and answer questions about the local environment that help them to identify and study a variety of plants and</p>	<p>Animals including humans Use the local environment throughout the year to explore and answer questions about animals in their habitat.</p> <p>Understand how to take care of animals taken from their local environment and the need to return them safely after study.</p> <p>Become familiar with the common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets.</p> <p>Animals Including Humans Be introduced to the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans.</p> <p>Be introduced to the processes of reproduction and growth in animals. The focus at this stage should be on questions that help pupils to recognise growth; they should not be</p>

		<p>of materials that make them suitable or unsuitable for particular purposes and they should be encouraged to think about unusual and creative uses for everyday materials.</p> <p>Pupils might find out about people who have developed useful new materials, for example John Dunlop, Charles Macintosh or John McAdam.</p>	and growth in plants.		<p>animals within their habitat and observe how living things depend on each other.</p> <p>Compare animals in familiar habitats with animals found in less familiar habitats.</p>	expected to understand how reproduction occurs.
G. Key Skills and Understanding - Year 1 Working Scientifically	<p>WS - Asking simple questions and recognising that they can be answered in different ways</p> <p>Observing closely, using simple equipment</p> <p>Performing simple tests</p> <p>Using their observations and ideas to suggest answers to questions</p> <p>Gathering and recording data to help in answering questions.</p>	<p>WS - Asking simple questions and recognising that they can be answered in different ways</p> <p>Observing closely, using simple equipment</p> <p>Performing simple tests</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Gathering and recording data to help in answering questions.</p>	<p>WS - Asking simple questions and recognising that they can be answered in different ways</p> <p>Observing closely, using simple equipment</p> <p>Performing simple tests</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Gathering and recording data to help in answering questions.</p>	<p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Observing closely, using simple equipment.</p> <p>Performing simple tests.</p> <p>Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p>	<p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Observing closely, using simple equipment.</p> <p>Performing simple tests.</p> <p>Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p>	<p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Performing simple tests.</p> <p>Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Gathering and recording data to help in answering questions.</p>
H. Key Skills and Understanding - Year 1 Working Scientifically- Non Statutory	<p>Make tables and charts about the weather; and make displays of what happens in the world around them, including day length, as the seasons change.</p>	<p>Perform simple tests to explore questions.</p>	<p>Perform simple tests to explore questions.</p>	<p>Observe closely and compare and contrast familiar plants; describing how they were able to identify and group them, and drawing diagrams showing the parts of different plants including trees.</p> <p>Record how plants have changed over time and compare and contrast what they have found out about</p>	<p>Observe closely and compare and contrast familiar plants; describing how they were able to identify and group them, and drawing diagrams showing the parts of different plants including trees.</p> <p>Record how plants have changed over time and compare and contrast what they have found out about</p>	<p>Use their observations to compare and contrast animals at first hand or through videos and photographs, describing how they identify and group them; grouping animals according to what they eat; and using their senses to compare different textures, sounds and smells.</p>

I. Key Skills and Understanding - Year 2 Working Scientifically	<p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Performing simple tests.</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Gathering and recording data to help in answering questions.</p>	<p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Performing simple tests.</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Gathering and recording data to help in answering questions.</p>	<p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Observing closely, using simple equipment.</p> <p>Performing simple tests.</p> <p>Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p>	<p>different plants.</p> <p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Observing closely, using simple equipment.</p> <p>Performing simple tests.</p> <p>Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p>	<p>different plants.</p> <p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Observing closely, using simple equipment.</p> <p>Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p>	<p>WS - Asking simple questions and recognising that they can be answered in different ways.</p> <p>Performing simple tests.</p> <p>Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Gathering and recording data to help in answering questions.</p>
J. Key Skills and Understanding - Year 2 Working Scientifically- Non Statutory	<p>Compare the uses of everyday materials in and around the school with materials found in other places.</p> <p>Observe closely, identifying and classifying the uses of different materials, and recording their observations.</p>	<p>Compare the uses of everyday materials in and around the school with materials found in other places.</p> <p>Observe closely, identifying and classifying the uses of different materials, and recording their observations.</p>	<p>Observe and record, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing similar plants at different stages of growth; setting up a comparative test to show that plants need light and water to stay healthy.</p>	<p>Observe and record, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing similar plants at different stages of growth; setting up a comparative test to show that plants need light and water to stay healthy.</p>	<p>Sort and classifying things according to whether they are living, dead or were never alive, and recording their findings using charts.</p> <p>Construct a simple food chain that includes humans</p> <p>Describe the conditions in different habitats and micro-habitats (under log, on stony path, under bushes) and find out how the conditions affect the number and type(s) of plants and animals that live there.</p>	<p>Observe, through video or first-hand observation and measurement, how different animals, including humans, grow; asking questions about what things animals need for survival and what humans need to stay healthy; and suggesting ways to find answers to their questions.</p>
K. Cross Curricular Links (Core non-negotiable standards)	Use of ICT Links with Project. Links with English and the spoken word. Links with maths and understanding of measurement.	Use of ICT Link with Project. Links to Design Technology and creativity. Link to Maths and understanding of number	Use of ICT Links with project. Links with maths and recording of data. Links to PSHCE and healthy eating.	Use of ICT Links with project. Links with maths and recording of data. Links to PSHCE and healthy eating.	Use of ICT Links with project. Links with maths and recording of data.	Use of ICT Links to Project. Links to English and non-chronological reports. Links to PSHCE and the need to care for the environment.
L. Assessment Pathway	Elicitation task (at the beginning of a unit)	Elicitation task (at the beginning of a unit)	Elicitation task (at the beginning of a unit)	Elicitation task (at the beginning of a unit)	Elicitation task (at the beginning of a unit)	Elicitation task (at the beginning of a unit)

	On-going teacher assessment of knowledge skills and understanding End of unit assessment	On-going teacher assessment of knowledge skills and understanding End of unit assessment	On-going teacher assessment of knowledge skills and understanding End of unit assessment	On-going teacher assessment of knowledge skills and understanding End of unit assessment	On-going teacher assessment of knowledge skills and understanding End of unit assessment	On-going teacher assessment of knowledge skills and understanding End of unit assessment
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Year Group	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
3– Unit Title	<u>Fire to Forts</u>	<u>Extreme Earth</u>	<u>Movement Motions</u>	<u>Rainforests</u>	<u>Egyptians</u>	<u>Farm to Fork</u>
	<u>Rocks and Soils</u>		<u>Forces and magnets</u>	<u>Plants</u>	<u>Light</u>	<u>Animals including humans</u>
A. Nat Curriculum 14	Y3 PoS – Rocks.		Y3 PoS – Forces and magnets	Y3 PoS – Plants	Y3 PoS – Light	Y3 PoS – Animals, including humans.
B. Academy Aims Link	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>		<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>
C. Scheme Reference	2014 Primary NC	2014 Primary NC	2014 Primary NC	2014 Primary NC	2014 Primary NC	2014 Primary NC
D. Key Knowledge	<p>To know and explore different soils and identify similarities and differences between them</p> <p>Investigate what happens when rocks are rubbed together or what changes occur when they are in water.</p>		<p>To know and compare how things move on different surfaces.</p> <p>To observe and understand how magnets attract and repel each other and attract some materials and not others.</p>	<p>Identify and describe the functions of different parts of flowering plants: roots, stem / trunk, leaves and flowers.</p> <p>Pupils should be introduced to the relationship between function and structure – the idea that</p>	<p>Recognise that humans need light to see things and that darkness is the absence of light.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that shadows are formed when the light</p>	<p>Identify that animals, including humans need the right types and amount of nutrition, and that they cannot make their own food: they get nutrition from what they eat.</p> <p>Identify that humans and some other animals have</p>

		To compare and group together a variety of everyday materials on the basis of whether they are attracted by a magnet, and identify some magnetic materials.	every part has a job to do. To know how water is transported in plants	from a source is blocked by a solid object.	skeletons and muscles for support, protection and movement.
E. Key Skills and Understanding Subject Content- Programme of Study	<p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>Recognise that soils are made from rocks and organic matter.</p>	<p>To know and compare how things move on different surfaces.</p> <p>To notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> <p>To observe and understand how magnets attract and repel each other and attract some materials and not others.</p> <p>To compare and group together a variety of everyday materials on the basis of whether they are attracted by a magnet, and identify some magnetic materials.</p> <p>To know and describe how magnets have two poles.</p> <p>To predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>Identify and describe the functions of different parts of flowering plants: roots, stem / trunk, leaves and flowers.</p> <p>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.</p> <p>Investigate the way in which water is transported within plants.</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p>recognise that they need light in order to see things and that dark is the absence of light</p> <p>notice that light is reflected from surfaces</p> <p>recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>find patterns in the way that the size of shadows change</p>	<p>identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat</p> <p>identify that humans and some other animals have skeletons and muscles for support, protection and movement</p>
F. Key Skills and Understanding Subject Content- Non statutory	<p>Explore different kinds of rocks and soils, including those in the local environment.</p> <p>Observe rocks, including those used in buildings, and explore how they might have changed over time.</p> <p>Identify and Classify rocks according to whether they have</p>	<p>To observe how magnetic forces can act without direct contact, unlike most forces, where direct contact is necessary (e.g. opening a door, pushing a swing).</p>	<p>Introduced to the relationships between structure and function: the idea that very part has a job to do.</p> <p>Explore questions that focus on the role of the</p>	<p>explore what happens when light reflects off a mirror or other reflective surfaces, including playing mirror games to help them to answer questions about how light behaves</p>	<p>learn about the importance of nutrition and should be introduced to the main body parts associated with the skeleton and muscles, finding out how different parts of the body have</p>

	<p>grains or crystals, or whether they have fossils in them.</p> <p>Research and discuss the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed.</p> <p>Explore different soils and identify similarities and differences between them and investigate what happens when rocks are rubbed together or what changes occur when they are in water.</p> <p>Raise and answer questions about the way soils are formed.</p>	<p>Explore the behaviour and everyday uses of different magnets (bar, ring, button and horseshoe).</p> <p>Work scientifically by:</p> <p>Comparing how different things move and to group them.</p> <p>Raising questions and carrying out tests to find out how far things move on different surfaces, and gathering and recording this data to find answers to questions.</p> <p>Explore the strength of magnets and find a fair way to compare them.</p> <p>Sorting materials into those that are and are not magnetic.</p> <p>To understand and look for the patterns in the way that magnets behave in relation to each other and what might affect this, for example, the strength of the magnet or which pole faces another.</p> <p>Identify how these properties make magnets useful in everyday items and suggesting creative uses for different magnets.</p>	<p>roots and stem in nutrition and support, leaves for nutrition and flowers for reproduction.</p> <p>Introduced to the idea that plants make their own food.</p> <p>Work scientifically by: Compete the effect of different factors on plant growth, the amount of light, the amount of fertiliser</p> <p>Discover how seeds are formed by observing different stages of plant life cycles over a period of time.</p> <p>Look for patterns in the structure of fruits that relate to how the seeds are dispersed</p> <p>Observe how water is transported in plants, for example, putting cut white flowers in coloured water and observing how water travels up the stem.</p>	<p>think about why it is important to protect their eyes from bright lights.</p> <p>look for, and measure, shadows, and find out how they are formed and what might cause the shadows to change.</p> <p>Work scientifically by:</p> <p>Look for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes.</p>	<p>special functions.</p> <p>Work scientifically by:</p> <p>identifying and grouping animals with and without skeletons and observing and comparing their movement;</p> <p>exploring ideas about what would happen if humans did not have skeletons.</p> <p>compare and contrast the diets of different animals (including their pets) and decide ways of grouping them according to what they eat.</p> <p>might research different food groups and how they keep us healthy, and design meals based on what they find out.</p>
G. Key Skills and Understanding Working Scientifically	<p>Ask relevant questions and using different types of scientific enquires to answer them</p> <p>Report on findings from enquires, including oral and</p>	<p>Set up simple practical enquires, comparative and fair tests</p>	<p>Report on findings from enquires, including oral and written explanations, displays or presentations of</p>	<p>Using straight forward scientific evidence to answer questions or to support their findings</p>	<p>Gathering, recording, classifying and presenting data in a variety of ways to help answer questions</p>

	written explanations, displays or presentations of results and conclusions		Making systematic and careful observations and, where appropriate, taking accurate measurements using a range of equipment Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	results and conclusions Identify differences, similarities or changes related to simple scientific ideas and processes	Using results draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	
H. Key Skills and Understanding Working Scientifically- non statutory	Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. Use relevant scientific language to discuss their own ideas and communicate their findings in different ways for different audiences.		Make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions Recognise when a simple fair test is necessary and help to decide how to set it up. Collect data from their own observations and measurements. Help to make decisions about how to record and analyse the data	Given a range of scientific experiences to enable to them to raise question about the world around them. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. Look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions.	Identify new questions arising from the data, make predictions on new values within or beyond the data they have collected and find ways of improving what they have already done.	Talk about criteria for grouping, sorting and classifying and use simple keys Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.
I. Cross Curricular Links (Core non-negotiable standards)	Literacy – writing the myth of Magnus Opportunities to use accurate spelling and scientific vocabulary. Discussions – evaluating / questioning Maths – measuring how far car travels IT/E Safety	Literacy - Opportunities to use accurate spelling and scientific vocabulary. Discussions – evaluating / questioning Computing - Scratch ; the unit links to working scientifically; in particular, making systematic and careful observations, and using results to draw conclusions and suggest improvements	Literacy - Opportunities to use accurate spelling and scientific vocabulary. Discussions – evaluating / questioning Labelling diagrams IT/E Safety	Literacy - Opportunities to use accurate spelling and scientific vocabulary. Discussions – evaluating / questioning Writing explanation IT/E Safety	Literacy- Opportunities to use accurate spelling and scientific vocabulary. Writing explanation Discussions – evaluating / questioning	Literacy- Opportunities to use accurate spelling and scientific vocabulary. Discussions – evaluating / questioning Maths s turns and rotation – shadows /compass point IT/E Safety
H. Assessment Pathway	Elicitation task (at the beginning of a unit) On-going teacher assessment of knowledge	Elicitation task (at the beginning of a unit) On-going teacher assessment of knowledge	Elicitation task (at the beginning of a unit) On-going teacher assessment of knowledge	Elicitation task (at the beginning of a unit) On-going teacher assessment of knowledge	Elicitation task (at the beginning of a unit) On-going teacher assessment of knowledge	Elicitation task (at the beginning of a unit) On-going teacher assessment of knowledge

	skills and understanding End of unit assessment	skills and understanding End of unit assessment	skills and understanding End of unit assessment	skills and understanding End of unit assessment	skills and understanding End of unit assessment	skills and understanding End of unit assessment
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Year Group	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
4– Unit Title	<u>States of Matter</u>		<u>Living things and their habitats</u>	<u>Animals and humans</u>	<u>Sound</u>	<u>Electricity</u>
A. Nat Curriculum 14	Y4 PoS –States of Matter		Y4 PoS –Living things and their habitats	Y4 PoS – Animals and humans	Y4 PoS –Sound	Y4 PoS –Electricity
B. Academy Aims Link	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>		<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>
C. Scheme Reference	2014 Primary NC		2014 Primary NC	2014 Primary NC	2014 Primary NC	2014 Primary NC
D. Key Knowledge	<p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>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)</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>		<p>To recognise that living things can be grouped in a variety of ways.</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Recognise that environments can change</p>	<p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Construct and interpret a variety of food chains, identifying producers,</p>	<p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>Find patterns between the pitch of a sound and features of the object that produced it.</p>	<p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>☐ 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</p>

		and that this can sometimes pose dangers to living things.	predators and prey.	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.	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.
E. Key Skills and Understanding – Programme of study	Explore a variety of everyday materials and develop simple descriptions of the states of matter (solids hold their shape; liquids form a pool not a pile; gases escape from an unsealed container). Observe water as a solid, a liquid and a gas and note the changes to water when it is heated or cooled.	Explore possible ways of grouping a wide selection of living things that include animals and flowering plants and non-flowering plants. Pupils could begin to put vertebrate animals into groups such as fish, amphibians, reptiles, birds, and mammals; and invertebrates into snails and slugs, worms, spiders, and insects. Explore examples of human impact (both positive and negative) on environments. Work scientifically by using and making simple guides or keys to explore and identify local plants and animals.	Explore the main body parts associated with the digestive system, for example, mouth, tongue, teeth, oesophagus, stomach and small and large intestine. Work scientifically by comparing the teeth of carnivores and herbivores, and suggesting reasons for differences; finding out what damages teeth and how to look after them. They might draw and discuss their ideas about the digestive system and compare them with models or images.	Explore and identify the way sound is made through vibration in a range of different musical instruments from around the world; and find out how the pitch and volume of sounds can be changed in a variety of ways.	Construct simple series circuits, trying different components, for example, bulbs, buzzers and motors, and including switches, and use their circuits to create simple devices. Pupils should draw the circuit as a pictorial representation, not necessarily using conventional circuit symbols at this stage; these will be introduced in year 6. Explore precautions for working safely with electricity. Work scientifically by: observing patterns, for example, that bulbs get brighter if more cells are added, that metals tend to be conductors of electricity, and that some materials can and some cannot be used to connect across a gap in a circuit.
F. Key Skills and Understanding Non-statutory	Explore a variety of everyday materials and develop simple descriptions of the states of matter (solids hold their shape; liquids form a pool not a pile; gases escape from an unsealed container). Work scientifically by: grouping and classifying a variety of	Use the local environment throughout the year to raise and answer questions that help them to identify and study plants and animals in their	Be introduced to the main body parts associated with the digestive system, for example: mouth, tongue, teeth,	Explore and identify the way sound is made through vibration in a range of different musical instruments from around the world; and find out how the	Construct simple series circuits, trying different components, for example, bulbs, buzzers and motors, and including switches, and use their circuits to create

	different materials; exploring the effect of temperature on substances such as chocolate, butter, cream.	<p>habitat.</p> <p>Explore examples of human impact (both positive and negative) on environments.</p> <p>Work scientifically by: using and making simple guides or keys to explore and identify local plants and animals; making a guide to local living things; raising and answering questions based on their observations of animals and what they have found out about other animals that they have researched.</p>	<p>oesophagus, stomach, and small and large intestine, and explore questions that help them to understand their special functions.</p> <p>Work scientifically by: comparing the teeth of carnivores and herbivores and suggesting reasons for differences; finding out what damages teeth and how to look after them.</p>	<p>pitch and volume of sounds can be changed in a variety of ways.</p> <p>Work scientifically by: finding patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses.</p>	<p>simple devices.</p> <p>Work scientifically by: observing patterns, for example, that bulbs get brighter if more cells are added, that metals tend to be conductors of electricity, and that some materials can and some cannot be used to connect across a gap in a circuit</p>
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G. Key Skills and Understanding Working Scientifically	<p>Ask relevant questions and use different types of scientific enquiries to answer them.</p> <p>Use straightforward scientific evidence to answer questions or to support my findings.</p>	Identify differences, similarities or changes related to simple scientific ideas and processes.	Gather, record, classify and present data in a variety of ways to help in answering questions.	<p>Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> <p>Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p>	<p>Set up simple practical enquiries, comparative and fair tests.</p> <p>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p>
H. Key Skills and Understanding Working Scientifically – non statutory	<p>Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions.</p> <p>Use relevant scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences.</p>	Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them.	Talk about criteria for grouping, sorting and classifying; and use simple keys.	<p>Learn how to use new equipment, such as data loggers, appropriately.</p> <p>Collect data from their own observations and measurements, using notes, simple tables and standard units, and help to make decisions about how to record and analyse this data.</p>	<p>Recognise when a simple fair test is necessary and help to decide how to set it up.</p> <p>Identify new questions arising from the data, making predictions for new values within or beyond the data they have collected, and finding ways of improving what they have already done.</p>
I. Cross Curricular Links (Core non-negotiable standards)	<p>Literacy – Water cycle explanation text</p> <p>Maths / ICT – Excel and data handling graphs charts of observed temperature and rainfall measurements</p> <p>Geography / Art – weather paintings</p> <p>IT/E Safety</p>	<p>Literacy – Fiction – Wind in the Willows</p> <p>Literacy – non-chronological reports</p> <p>Maths – classification keys / venn and carroll diagrams</p> <p>ICT / Music – story sound tracks</p> <p>IT/E Safety</p>	<p>Literacy – persuasive posters</p> <p>Maths – measuring heart rates</p> <p>DT/ MFL French – cooking healthy food</p> <p>PSCHE – drug awareness</p>	<p>Literacy – instructions: How to make a musical instrument</p> <p>Maths / ICT – measuring sound levels</p> <p>Music – exploring sounds / pitch</p> <p>IT/E Safety</p>	<p>Literacy – circuit instructions & safety posters</p> <p>DT – making torches / alarms</p> <p>Maths – exploring 2d/3d shapes</p> <p>IT/E Safety</p>
J. Assessment Pathway	<p>Elicitation task (at the beginning of a unit)</p> <p>On-going teacher assessment of knowledge skills and understanding</p> <p>End of unit assessment</p>	<p>Elicitation task (at the beginning of a unit)</p> <p>On-going teacher assessment of knowledge skills and</p>	<p>Elicitation task (at the beginning of a unit)</p> <p>On-going teacher assessment of knowledge skills and</p>	<p>Elicitation task (at the beginning of a unit)</p> <p>On-going teacher assessment of knowledge skills and</p>	<p>Elicitation task (at the beginning of a unit)</p> <p>On-going teacher assessment of knowledge skills and</p>

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Year Group	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
5 – Unit Title	<u>Forces</u>	<u>Earth and Space</u>	<u>Properties and changes of material</u>		<u>Living things and their habitats</u>	<u>Animals and humans</u>
A. Nat Curriculum 14	Y5 PoS – Forces	Y5 PoS –Earth and Space	Y5 PoS – Properties and changes of material		Y5 PoS –Living things and their habitats	Y5 PoS –Animals and humans
B. Academy Aims Link	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>		<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>
C. Scheme Reference	2014 Primary NC	2014 Primary NC	2014 Primary NC		2014 Primary NC	2014 Primary NC
D. Key Knowledge	<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>Identify the effects of air resistance, water resistance and friction that act between moving surfaces.</p>	<p>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>Describe the movement of the Moon relative to the Earth.</p> <p>Describe the Sun, Earth</p>	<p>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.</p> <p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide</p>		<p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p>	<p>Describe the changes as humans develop to old age.</p>

	<p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	<p>and Moon as approximately spherical bodies.</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p>	<p>how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>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.</p>		
<p>E. Key skills and Understanding Programme of study</p>	<p>Explore falling objects and raise questions about the effects of air resistance.</p> <p>Explore the effects of air resistance by observing how different objects such as parachutes and sycamore seeds fall. They should experience forces that make things begin to move, get faster or slow down.</p> <p>Explore the effects of friction on movement and find out how it slows or stops moving objects, for example, by observing the effects of a brake on a bicycle wheel. Pupils should explore the effects of levers, pulleys and simple machines on movement.</p> <p>Work scientifically by exploring falling paper cones or cup-cake cases, and designing and making a variety of parachutes and carrying out fair tests to determine which designs are</p>	<p>Explore a model of the Sun and Earth that enables them to explain day and night. Pupils should learn that the Sun is a star at the centre of our solar system and that it has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006).</p> <p>Understand that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).</p> <p>Explore ideas about how the solar system has developed; understanding how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen and Copernicus.</p>	<p>Explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes.</p> <p>Explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda.</p> <p>Work scientifically by carrying out tests to answer questions, for example, 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?' Compare materials in order to make a switch in a circuit. They could observe and compare the changes that take place, for example, when burning different materials or baking bread or cakes.</p> <p>Research and discuss how chemical changes have an impact on our lives, for example, cooking, and discuss the creative use of new materials such as polymers, super-sticky and super-thin materials.</p>	<p>Observe life-cycle changes in a variety of living things.</p> <p>Find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals.</p> <p>Work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world. Grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. Observe changes in an animal over a period of time, comparing how different animals reproduce and grow.</p>	<p>Draw a timeline to indicate stages in the growth and development of humans.</p> <p>Explore the changes experienced in puberty.</p> <p>Work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.</p>

	<p>the most effective.</p> <p>Explore resistance in water by making and testing boats of different shapes. They might design and make products that use levers, pulleys, gears and/or springs and explore their effects.</p>	<p>Work scientifically by comparing the time of day at different places on the Earth, creating simple models of the solar system; constructing simple shadow clocks and sundials, calibrated to show midday and the start and end of the school day; finding out why some people think that structures such as Stonehenge might have been used as astronomical clocks.</p>			
F. Key Skills and Understanding Non-statutory	<p>Explore falling objects and raise questions about the effects of air resistance.</p> <p>Explore the effects of friction on movement and find out how it slows or stops moving objects.</p> <p>Work scientifically by: exploring falling paper cones or cupcake cases, and designing and making a variety of parachutes and carrying out fair tests to determine which designs are the most effective.</p>	<p>Be introduced to a model of the sun and Earth that enables them to explain day and night.</p> <p>Understand that a moon is a celestial body that orbits a planet (Earth has 1 moon; Jupiter has 4 large moons and numerous smaller ones).</p> <p>Find out about the way that ideas about the solar system have developed.</p> <p>Work scientifically by: comparing the time of day at different places on the Earth through internet links and direct communication.</p>	<p>Build a more systematic understanding of materials by exploring and comparing the properties of a broad range of materials, including relating these to what they learnt about magnetism in year 3 and about electricity in year 4.</p> <p>Explore reversible changes, including evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes.</p> <p>Explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda.</p> <p>Work scientifically by: carrying out tests to answer questions, for example, 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?'</p>	<p>Study and raise questions about their local environment throughout the year.</p> <p>Observe life-cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local environment.</p> <p>Find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals.</p> <p>Work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times),</p>	<p>Draw a timeline to indicate stages in the growth and development of humans.</p> <p>Learn about the changes experienced in puberty.</p> <p>Work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.</p>

				asking pertinent questions and suggesting reasons for similarities and differences.	
G. Key Skills and Understanding Working Scientifically	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.	Report and present 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. Identify scientific evidence that has been used to support or refute ideas or arguments.	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Use test results to make predictions to set up further comparative and fair tests	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
H. Key Skills and Understanding Working Scientifically – non statutory	Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why.	Explore ideas and raise different kinds of questions. Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time.	Decide how to record data from a choice of familiar approaches; look for different causal relationships in their data and identify evidence that refutes or supports their ideas.	Use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment.	Use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment. Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time.
I. Cross Curricular Links (Core non-negotiable standards)	DT – Mechanical toy - Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] Maths – interpreting graphs; convert between different units of measure	Maths scale – using decimal notation including scale; place value – read write and compare numbers to 1 000 000; count forwards and backwards in powers of 10; interpret data on a graph Literacy –identify audience	ICT – We are architects – properties of building materials e.g. Hardness and transparency	SMSC – SRE	PE – healthy lifestyle SMSC – SRE

		and purpose of the writing, selecting the appropriate form			
J. Assessment Pathway	Elicitation task (at the beginning of a unit) On-going teacher assessment of knowledge skills and understanding End of unit assessment	Elicitation task (at the beginning of a unit) On-going teacher assessment of knowledge skills and understanding End of unit assessment	Elicitation task (at the beginning of a unit) On-going teacher assessment of knowledge skills and understanding End of unit assessment	Elicitation task (at the beginning of a unit) On-going teacher assessment of knowledge skills and understanding End of unit assessment	Elicitation task (at the beginning of a unit) On-going teacher assessment of knowledge skills and understanding End of unit assessment

Year Group	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
6 – Unit Title	<u>Electricity</u>	<u>Light</u>	<u>Animals and humans</u>	<u>Living things and their habitats</u>		<u>Evolution and inheritance</u>
A. Nat Curriculum 14	Y6 PoS –Electricity	Y6 PoS –Light	Y6 PoS – Animals and humans	Y6 PoS –Living things and their habitats		Y6 PoS – Evolution and inheritance
B. Academy Aims Link	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>	<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>		<p>Accelerating and sustaining children’s progress towards higher achievement.</p> <p>Challenge children by setting aspirational goals to ensure they grow into confident individuals who can succeed.</p> <p>Provide children with a broad, balanced, stimulating and relevant curriculum which allows children every opportunity to develop into healthy and well-adjusted individuals.</p> <p>Ensure children see failure as not a negative but an opportunity to grow and learn.</p>
C. Scheme Reference	2014 Primary NC	2014 Primary NC	2014 Primary NC	2014 Primary NC	2014 Primary NC	2014 Primary NC
D. Key Knowledge	<p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>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.</p> <p>Use recognised symbols</p>	<p>Recognise that light appears to travel in straight lines.</p> <p>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.</p> <p>Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our</p>	<p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>Describe the ways in which nutrients and water are transported within animals,</p>	<p>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</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p>		<p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>Identify how animals and plants are adapted to suit</p>

	when representing a simple circuit in a diagram.	eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	including humans.			their environment in different ways and that adaptation may lead to evolution.
E. Key Skills and Understanding Subject Content- Programme of Study	<p>associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</p> <p>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</p> <p>use recognised symbols when representing a simple circuit in a diagram</p>	<p>recognise that light appears to travel in straight lines</p> <p>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</p> <p>use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them</p>	<p>identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>describe the ways in which nutrients and water are transported within animals, including humans</p>	<p>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</p> <p>give reasons for classifying plants and animals based on specific characteristics</p>		<p>recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p>
F. Key Skills and Understanding Subject Content- Non Statutory	<p>construct simple series circuits, to help them to answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors</p> <p>represent a simple circuit in a diagram using recognised symbols.</p> <p>take the necessary precautions for working safely with electricity.</p> <p>Work scientifically by:</p>	<p>exploring the way that light behaves, including light sources, reflection and shadows. They should talk about what happens and make predictions.</p> <p>might work scientifically by: deciding where to place rear-view mirrors on cars; designing and making a periscope and using the idea that light appears to travel in straight lines to explain how it works.</p> <p>might investigate the relationship between light</p>	<p>to explore and answer questions that help them to understand how the circulatory system enables the body to function.</p> <p>learn how to keep their bodies healthy and how their bodies might be damaged – including how some drugs and other substances can be harmful to the human body.</p> <p>might work scientifically by:</p> <p>exploring the work of</p>	<p>introduced to the idea that broad groupings, such as micro-organisms, plants and animals can be subdivided</p> <p>classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals).</p> <p>discuss reasons why living things are placed in one group and not another.</p>		<p>introduced to the idea that characteristics are passed from parents to their offspring, for instance by considering different breeds of dogs, and what happens when, for example, labradors are crossed with poodles.</p> <p>appreciate that variation in offspring over time can make animals more or less able to survive in particular environments, for example, by exploring how giraffes' necks got longer, or the development of insulating</p>

	<p>systematically identifying the effect of changing one component at a time in a circuit; designing and making a set of traffic lights, a burglar alarm or some other useful circuit</p>	<p>sources, objects and shadows by using shadow puppets.</p> <p>extend their experience of light by looking a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water, and coloured filters (they do not need to explain why these phenomena occur).</p>	<p>scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.</p>	<p>find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification.</p> <p>Pupils might work scientifically by:</p> <p>using classification systems and keys to identify some animals and plants in the immediate environment.</p> <p>research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.</p>		<p>fur on the arctic fox</p> <p>find out about the work of palaeontologists such as Mary Anning and about how Charles Darwin and Alfred Wallace developed their ideas on evolution.</p> <p>work scientifically by: observing and raising questions about local animals and how they are adapted to their environment;</p> <p>comparing how some living things are adapted to survive in extreme conditions, for example, cactuses, penguins and camels.</p> <p>might analyse the advantages and disadvantages of specific adaptations, such as being on 2 feet rather than 4, having a long or a short beak, having gills or lungs, tendrils on climbing plants, brightly coloured and scented flowers.</p>
<p>G. Key Skills and Understanding Working Scientifically</p>	<p>planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p> <p>using test results to make predictions to set up further comparative and fair tests</p>	<p>planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p> <p>taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings</p>	<p>recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p>	<p>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</p>		<p>identifying scientific evidence that has been used to support or refute ideas or arguments</p>

		when appropriate				
H. Key Skills and Understanding Working Scientifically- Non Statutory	<p>recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why</p> <p>use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time.</p>	<p>select and plan the most appropriate type of scientific enquiry to use to answer scientific questions</p> <p>choose the most appropriate equipment to make measurements and explain how to use it accurately.</p> <p>use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time.</p>	<p>use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment.</p> <p>use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time.</p>	<p>select and plan the most appropriate type of scientific enquiry to use to answer scientific questions</p> <p>decide how to record data from a choice of familiar approaches; look for different causal relationships in their data and identify evidence that refutes or supports their ideas.</p> <p>use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time.</p>		<p>explore ideas and raise different kinds of questions;</p> <p>recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact.</p> <p>use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time.</p>
I. Cross Curricular Links (Core non-negotiable standards)	<p>Literacy – writing up of scientific investigation</p> <p>History – WW2</p> <p>Computing – circuits</p> <p>Maths – handling data and measure</p>	<p>Literacy – writing up of scientific investigation</p> <p>Geography – mountain habitats</p> <p>Maths – handling data and measure</p>	<p>Literacy – writing up of scientific investigation</p> <p>PSHE - body changes</p> <p>PE – healthy lifestyle/fitness</p>	<p>Literacy – writing up of scientific investigation</p> <p>Geography – extreme environments</p> <p>PSHE – body changes</p> <p>PE – healthy lifestyle/fitness</p>		<p>Literacy – writing up of scientific investigation</p> <p>Maths – handling data and measure</p>
J. Assessment Pathway	<p>Elicitation task (at the beginning of a unit)</p> <p>On-going teacher assessment of knowledge skills and understanding</p> <p>End of unit assessment</p>	<p>Elicitation task (at the beginning of a unit)</p> <p>On-going teacher assessment of knowledge skills and understanding</p> <p>End of unit assessment</p>	<p>Elicitation task (at the beginning of a unit)</p> <p>On-going teacher assessment of knowledge skills and understanding</p> <p>End of unit assessment</p>	<p>Elicitation task (at the beginning of a unit)</p> <p>On-going teacher assessment of knowledge skills and understanding</p> <p>End of unit assessment</p>		<p>Elicitation task (at the beginning of a unit)</p> <p>On-going teacher assessment of knowledge skills and understanding</p> <p>End of unit assessment</p>