

Science

Intent

Kingsthorne Primary School

We aim to give all children a strong understanding of the world around them whilst acquiring specific skills and knowledge to help them to think scientifically, to gain an understanding of scientific processes and also an understanding of the uses and implications of science, today and for the future.

Scientific enquiry skills are embedded in each topic the children study and these topics are revisited and developed throughout their time at school. Topics, such as Plants, are taught in Key Stage One and studied again in further detail throughout Key Stage Two. This model allows children to build upon their prior knowledge and increases their enthusiasm for the topics whilst embedding this procedural knowledge into the long-term memory.

All children are encouraged to develop and use a range of skills including observations, planning and investigations, as well as being encouraged to question the world around them and become independent learners in exploring possible answers for their scientific based questions.

Specialist vocabulary for topics is taught and built up, and effective questioning to communicate ideas is encouraged. Concepts taught should be reinforced by focusing on the key features of working scientifically, so that pupils learn to use a variety of approaches to answer relevant scientific questions.

Implementation:

As it is a core subject and crucial to pupils understanding of the world around them, science is taught every week in Years 1- 6. As science, alongside mathematics and literacy is a subject they must go on and study at secondary school to at least GCSE level we must ensure that they have a good understanding of the subject and its different disciplines.

With this in mind, we have categorized our science topics explicitly into Biology, Chemistry and Physics. In Year 1 pupils have a learning journal for all topics as they are very interlinked and the approach is cross curricular. In Year 2 pupils have a separate science book to their curriculum book. Taking this even further, the pupils in Key Stage 2 have separate books for each of these disciplines to help them identify which area of science they are studying. Having separate books in key stage 2 also allows us to pass them up through the year groups so that we have a continued record of the children's progress and to allow for reference to prior learning. Our pupils need regular signposting to prior learning in order to remind them of what they have learned and help them to retain the information they have learned. We are very much aware that for many of our pupils, school is the only time they ever discuss the phenomenon of the world around them and have opportunities to explore and explain their findings.

Our science curriculum is planned to allow for spiraled learning of topics, with repetition every couple of years to help develop the in-depth knowledge and understanding required. In addition to this, the books can also be used to assist in end of key stage assessment. We record pupil assessment on Educater which allows us to record assessment for each child against the key objectives for each topic. This way we can build a robust idea of the pupils learning and identify any areas of weakness in the curriculum that can be addressed. To aid the use of this assessment platform, we have built assessment for learning in to the teaching sequence to allow for a wide variety of assessment opportunities throughout a unit of work. Each topic has a start point to assess the knowledge pupils have already, a mid-point review to check on learning and an end point assessment. This is to ensure that teachers are providing many varied and active opportunities for the children to show their knowledge and learning in a wide variety of ways and not just an end of topic written test on which historically, our pupils have not fared well. The Early Years Foundation Stage (EYFS) follows the 'Development Matters in the EYFS' guidance which aims for all children in reception to have an 'Understanding of the World; people and communities, the world and technology' by the end of the academic year.

Year Group	What we teach and why Highlight repeats / skills building up			Adaptations and experiences that are specifically chosen for our community and make links to the wider world. What do we hang the learning on to make it exciting? Include a variety of: charity work, cultural links, career opportunities, house competitions, trips, cross curricular links, intervention work, displays, focus on local area, link with external agencies, visitors, themed days etc
	Autumn	Spring	Summer	
Year 1	Topic Title Materials (Chemistry)Links to NC Distinguish between an object and the material from which it is madeCompare and group together a variety of everyday materials on the basis of their simple physical propertiesDescribe the simple physical properties of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.Key Vocabulary materials, properties, objects, physical, transparent, opaque, man-made, naturalSequence of LessonsAft – Baseline Assessment - Sorting Sorting objects by their material.	Topic Title Animals (Biology)Links to NC Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals including petsIdentify and name a variety of common animals that are carnivores, herbivores and omnivoresDescribe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)Key Vocabulary Fish, amphibians, reptiles, birds, mammals, omnivore, herbivore, carnivore, habitat, diet, insect, nocturnal, lifecycleSequence of LessonsAft – Baseline Assessment - Big Question What does it mean to be alive? Classify animals and objects into living/non-living things.	Topic Title Plants (Biology)Links to NC Identify and name a variety of common wild and garden plants, including deciduous and evergreen treesIdentify and describe the basic structure of a variety of common flowering plants, including treesKey Vocabulary plants, leaves, trees, flowers, deciduous, evergreen, stem, roots, trunk, petal, branchSequence of LessonsAfL – Baseline Assessment - Matching Activity Use labels to correctly identify parts of a flowering plant.L.O. I am learning to identify and describe the basic features of a flower (stem, petal, leaf, roots) To identify and classify.Scientific Enguiry – Plant Walk	TripsAsh End Farm– focused on animals and theiryoung, animal facts and caring forthem -reptiles, mammals, birds, insectsInspire WorkshopMaking a house for The Three LittlePigs – choosing appropriatematerialsScience Links through topicsAll About Me:My BodySensesHealthy Me - how we can keep ourbodies healthy (washing our hands,eating healthy food, brushing ourteeth, washing our bodies)Growth – lifecycle of a humanAnimals:L.O. I am learning to classify and sortobjects into living and non-living.

	L.O. I am learning to name and identify different	L.O. I am learning to identify and name a variety of	L.O. I am learning where food comes
L.O. I am learning to identify everyday objects and	animals.	common flowers.	from.
name the materials they are made from.	To identify and classify;	To identify and classify.	
To ask simple questions and recognise that they			L.O I am learning that different
can be answered in different ways.	L.O. I am learning to sort animals into different	L.O. I am learning to recognise and label the basic	animals produce different foods.
To identify and classify;	groups (mammals, fish, reptiles, amphibians,	features of a flower and a tree.	
, , , , , , , , , , , , , , , , , , , ,	insects, birds)	To identify and classify.	L.O. I am learning about nocturnal
L.O. I am learning to identify, name and sort objects	To identify and classify;		and diurnal animals.
into the material they are made from.	L.O. I am learning that animals belong to different	Scientific Enquiry – Plant Walk	
To ask simple questions and recognise that they	groups.	L.O. I am learning to identify and name a variety of	
can be answered in different ways;	To identify and classify;	common trees, using their leaves/flowers.	Curriculum Links
To identify and classify.		To identify and classify.	Art
	Afl - Mid-Point - Open Ended Grouping Activity	To gather and record data about my observations.	WOW point:
L.O. I am learning to group together and describe a	Give them a variety of animals and pupils explain		Visit from Artist to make 3D animals.
variety of everyday materials on the basis of their	why they have grouped them as they have.	Afl - Mid-Point Review – Odd One Out	Research, draw and create an
physical properties (smooth, shiny, hard, soft,	, , , , , ,	Tall Trunks – Explorify	animal.
rough, squishy, rigid, flexible)	L.O. I am learning that animals live in different	https://explorify.uk/en/activities/odd-one-out/tall-	Displayed on topic boards.
To ask simple questions and recognise that they	habitats (ocean, woodland, desert, polar)	<u>trunks</u>	
can be answered in different ways;	L.O. I am learning to sort animals into the habitats		See ART and DT intent documents.
To identify and classify; to perform simple tests;	they live in.	Investigation – Inside Plant Look	
	To identify and classify;	Use a magnifying glass to closely study the basic	<u>Literacy</u>
L.O. I am learning to identify, name and sort a		structures of marigolds and petunias.	Fact Files – habitats, diet,
variety of everyday materials by their physical	L.O I am learning to classify and sort a variety of	KEY QUESTION – Do all common flowering plants have	appearance, animal groups
properties.	animals that are herbivores, omnivores &	the same features? L.O. I am learning to identify basic structure of a	Riddle - writing about different
To identify and classify; to perform simple tests –	carnivores.		animals
test for flexible, waterproof etc. to observe closely,	To identify and classify;	variety of common flowering plants.	
using simple equipment;		To ask simple questions and recognise that they can be answered in different ways.	WORKING SCIENTIFICALLY
To gather and record data to help in answering	L.O. I am learning about animal food chains.	To observe closely, using simple equipment.	
questions;	5		Plan
	L.O. I am learning about animal life cycles.	To perform simple tests.	To ask simple questions and
Afl - Mid-Point - Big Question	5 · · · · · · · · · · · · · · · · · · ·	To gather and record data about my observations.	recognise that they can be answered
Which material will keep Eddy the Teddy dry?	Scientific Enquiry – Lifecycle of a Butterfly (Big	To use these observations and ideas to suggest	in different ways
Teacher adapted Fred Bear's Coat	Book)	answers to questions. What does this tell us?	
p.93 Active assessment	(live butterfly garden to observe and explore)		Do
	To ask simple questions;	L.O. I am learning to compare deciduous and	To observe closely, using simple
L.O. I am learning to identify and sort materials that	To observe closely,	evergreen trees and name some of these.	equipment
are opaque and transparent.	To gather and record data to help in answering	L.O. I am learning to identify and classify.	
To identify and classify; to perform simple tests;	questions;	To gather and record data about my observations.	To perform simple tests
To gather and record data to help in answering	To use my observations and ideas to suggest		
questions;	answers to questions;	<u>AfL - End of Unit Assessment</u>	To identify and classify
		End of unit test	
Investigation - What material shall I use for	AfL - End of Unit Assessment		Record
Teddy's curtains? Opaque/Transparent	End of Unit Test	How does this link build on previous learning?	
L.O. I am learning to choose suitable materials.		Children know about similarities and differences in	To gather and record data to help in
To ask simple questions;	How does this link build on previous learning?	relation to places, objects, materials and living	answering questions

Y			
To gather and record data to help in answering	Use all their senses in hands-on exploration of	things. They talk about the features of their own	
questions;	natural materials. (Nursery - Humans)	immediate environment and how environments	Review
To use my observations and ideas to suggest		might vary from one another. They make	
answers to questions;	Name and describe people who are familiar to	observations of animals and plants and explain why	To use their observations and ideas
	them. (Reception - Humans)	some things occur and talk about changes. (Early	to suggest answers to questions
AfL - End of Unit Assessment		Learning Goal)	
End of Unit Test			
How does this link build on previous learning?			
Use all their senses in hands-on exploration of			
natural materials. (Nursery - Materials, including			
changing materials)			
Explore collections of materials with similar and/or			
different properties. (Nursery - Materials, including			
changing materials)			
Talk about the differences between materials and			
changes they notice. (Nursery - Materials, including			
changing materials)			
Topic Title			
All About Me			
(Biology)			
Links to NC			
Identify, name, draw and label the basic parts of			
the human body and say which part of the body is			
associated with each sense.			
Key Veeebulery			
Key Vocabulary head, neck, elbow, leg, knee, arm, face, ears,			
eyes, hair, mouth, teeth, toes, fingers,			
shoulder, hand, nose, smell, touch, sight, hear,			
taste, feel, see			
Sequence of Lessons			
L.O. I am learning to identify, name and label the			
parts of the body.			
To identify and classify;			
L.O. I am learning to draw different body parts and			
label them.			
To identify and classify;			
L.O. I am learning to explore my body through my			
senses - touch, hear, see, smell, feel.			
censes - couchy neary seey smelly reen			<u> </u>

	To ask simple questions;			
	To identify and classify;			
	Scientific Enquiry - Exploring Our Senses			
	Carousel Activity:			
	1. Can you guess the food/object using your			
	senses?			
	2. Odd One Out			
	To ask simple questions;			
	To perform simple tests			
	To gather and record data to help in answering			
	questions;			
	To use my observations and ideas to suggest			
	answers to questions;			
	Investigation – Senses			
	What does my body do if I lose a sense?			
	L.O. I am learning to explore my body through my			
	senses - touch, hear, see, smell, feel.			
	To ask simple questions;			
	To perform simple tests			
	To gather and record data to help in answering			
	questions;			
	To use my observations and ideas to suggest			
	answers to questions;			
	How does this link build on previous learning?			
	In EYFS, particularly nursery, the children have the			
	opportunity to explore their bodies through			
	nursery rhymes, songs and name the body parts			
	games. In Year 1, we focus on naming, identifying,			
	drawing and labelling body parts and make links to			
	these with our senses.			
	Nursery Topic Link - All About Me (Autumn 1)			
	Topic Title	Topic Title	Topic Title	
	Seasonal Change	Seasonal Change	Seasonal Change	
	(Physics)	(Physics)	(Physics)	Seasons – weather chart daily in
				class; immersion week on seasons –
Year 1	Links to NC	Links to NC	Links to NC	each child tracked the weather and
	Observe changes across the four seasons	Observe changes across the four seasons	Observe changes across the four seasons	made a weather booklet.
	Observe and describe weather associated with the	Observe and describe weather associated with the	Observe and describe weather associated with the	<u>NB – just do 5 days in school, don't</u>
	seasons and how day length varies	seasons and how day length varies	seasons and how day length varies	send home, as they don't come
				back!!

Observe and talk about changes in the weather and	Observe and talk about changes in the weather and	Observe and talk about changes in the weather and	
the seasons	the seasons	the seasons	
Key Vocabulary	Key Vocabulary	Key Vocabulary	
Seasons - Autumn, Spring, Winter, Summer	Seasons - Autumn, Spring, Winter, Summer	Seasons - Autumn, Spring, Winter, Summer	
Weather - cloudy, sunny, hot, cold, foggy, icy,	Weather - cloudy, sunny, hot, cold, foggy, icy,	Weather - cloudy, sunny, hot, cold, foggy, icy,	
	humid, rainy	humid, rainy	
humid, rainy			
leaves, trees, plants, hibernate, evergreen,	leaves, trees, plants, hibernate, evergreen,	leaves, trees, plants, hibernate, evergreen,	
deciduous, days of the week, months of the year,	deciduous, days of the week, months of the year,	deciduous, days of the week, months of the year,	
daytime, night-time	daytime, night-time	daytime, night-time	
Sequence of Lessons	Sequence of Lessons	Sequence of Lessons	
Scientific Enguiry	Scientific Enguiry	Scientific Enquiry	
Learning opportunities throughout the term:	Learning opportunities throughout the term:	Learning opportunities throughout the term:	
L.O. I am learning to observe the changes in the	L.O. I am learning to observe the changes in the	L.O. I am learning to observe the changes in the	
seasons – Autumn.	seasons – Winter.	seasons – Summer.	
To ask simple questions;			
	To ask simple questions;	To ask simple questions;	
To identify and classify;	To identify and classify;	To identify and classify;	
Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	
L.O. I am learning to keep track the daily weather	L.O. I am learning to keep track the daily weather	L.O. I am learning to keep track the daily weather	
using a weather chart.	using a weather chart.	using a weather chart.	
To identify and classify;	To identify and classify;	To identify and classify;	
To use my observations and ideas to suggest	To use my observations and ideas to suggest	To use my observations and ideas to suggest	
answers to questions;	answers to questions;	answers to questions;	
To gather and record data to help in answering	To gather and record data to help in answering	To gather and record data to help in answering	
	questions;		
questions;	questions,	questions;	
How does this link build on previous learning?	L.O. I am learning to identify and name some of the	L.O. I am learning to identify and name some of the	
Children know about similarities and differences in	clothes I wear in the winter and explain why I wear	clothes I wear in the summer and explain why I	
relation to places, objects, materials and living	them.	wear them.	
things. They talk about the features of their own	To ask simple questions;	To ask simple questions;	
immediate environment and how environments	To use my observations and ideas to suggest	To use my observations and ideas to suggest	
might vary from one another. They make	answers to questions;	answers to questions;	
observations of animals and plants and explain why			
some things occur and talk about changes. (Early	Scientific Enquiry		
Learning Goal)	L.O. I am learning to observe the changes in the		
	seasons – Spring.		
Autumn 1 - Local Environment	To ask simple questions;		
The children observe the basic changes in plants	To use my observations and ideas to suggest		
during Autumn - talking and sharing ideas on an	,		
Autumn Walk.	answers to questions;		
	How does this link build on province locarize?		
	How does this link build on previous learning?		

	In KS1, we build on this knowledge and extend our Autumn observations: Observing changes in plants, and animals (including humans). Observing, tracking and recording the weather using a weather chart.	Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. (Early Learning Goal): Spring 1 – Changes The children continue seasonal observations, focusing on Spring changes and talk about how these differ from Autumn/Winter. In KS1, we build on this knowledge and extend our Spring/Winter observations: Observing changes in plants, and animals (including humans) and comparing changes across the autumn/winter/spring seasons. Observing, tracking and recording the weather using a weather chart. Recording changes through drawings, diagrams and written explanations. We extend our observations across the year - observing and exploring all 4 seasons, discussing and asking/answering questions about changes/differences between seasons and looking at the effects on plants/animals and humans.		
Year 2	Topic Title Uses of Everyday Materials (Chemistry) Links to NC Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses	Topic TitleLiving Things and Their Habitats(Biology)Links to NCExplore & compare living things, non-living & neverlived.Identify that most living things need a habitat to	Topic Title Animals including Humans (Biology) Links to NC Notice that all animals have offspring which grow into adults. Find out about and describe the basic needs of	Cross - Curriculum Links Literacy: Animals - writing animal fact files (non- chronological report) - food diary (healthy food) - healthy me diary (exercise, hygiene, sleep, diet)
	Find out how the shapes of solid objects can be changed by squashing, bending, twisting and stretching.	which they are suited. The habitat must provide the basic needs of the living thing. Identify and name plants and animals in their habitats including micro-habitats	animals, including humans, for survival (water, food and air) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Guided Reading – using non-fiction books linking to science units. <u>Curriculum:</u> Spring Topic - Around the World; hot & cold continents; adaptations.

Key Vocabulary			
	Describe how animals obtain their food from plants	Key Vocabulary	PSHE – Jigsaw:
Object, material, metal, wood, plastic, properties,	and other animals, using the idea of a simple food		- Healthy Me
transparent, opaque, translucent, waterproof,	chain, and identify and name different sources of	Animals, young, reproduce, babies, eggs, life cycle,	- Changing Me
flexible, suitability, natural, man-made,	food.	mammals, live young, growth, diet, healthy,	
		balanced diet,	DT – designing and cooking a
Sequence of Lessons	Key Vocabulary	,	healthy, balanced meal
AfL – Baseline Assessment - Odd One Out	Habitat, environment, micro-habitat, living, dead,	Sequence of Lessons	
Show the children pictures of different objects	never lived, predator, herbivore, omnivore,	AfL – Baseline Assessment – Matching Activity	Trips/Workshops/Visitors:
and/or materials and they have to say which is the	carnivore, source, shelter, sort and classify,	Can you match the young to the adult animal?	Think Tank Museum
odd one out and why. Could be open ended as long		can you mater the young to the dual unmar.	Dudley Zoo
as they can say why one is the odd one out.	Sequence of Lessons	L.O. I am learning to identify animals and their	
as they can say why one is the odd one out.		young.	Whole-School Themed Days
L.O. I am learning to identify the properties of	AfL – Baseline Assessment - Sorting	To identify and classify.	Science Day – 7 th October 2023
materials. I can name the object, the material and	Where do I live? Sort a variety of animals into the		
its use.	correct habitat.	L.O. I am learning to find out how different animals	
L.O. I am learning to identify and classify.		reproduce (eggs, live young)	WORKING SCIENTIFICALLY
	<u> Scientific Enquiry – Chicks (lifecycle of chick)</u>	LO Low looving to identify the stores of hyperp	WORKING SCIENTIFICALLY
L.O. I am learning to understand that the same	Ongoing throughout investigation:	L.O. I am learning to identify the stages of human	
object can be made of many materials e.g. spoons –		development.	Plan
wood, metal, plastic and why this is.	L.O. I am learning to explore the lifecycle	To identify and classify.	To ask simple questions and
			recognise that they can be answ
L.O. I am learning to identify if a material is	of an animal.	AfL - Mid-Point Review	in different ways
transparent, opaque or translucent.	To ask simple questions and recognise that they	What do these animals need to survive?	
L.O. I am learning to identify and classify.	can be answered in different ways.	Matching survival requirements to different	Do
		animals including humans.	To observe closely, using simple
Investigation – Is it waterproof? Why?	To observe closely, using simple equipment		equipment
L.O. I am learning to identify if a material is	To perform simple tests	L.O. I am learning about a healthy balanced diet.	equipment
waterproof or not and can explain why.	To gather and record data to help in answering	To use observations and ideas to suggest a	To porform simple tests
To ask simple questions.	questions	balanced meal.	To perform simple tests
To observe closely, using simple	To use their observations and ideas to suggest		To identify and classify
equipment; perform simple tests.	answers to questions	L.O. I am learning to design a healthy, balanced	
		meal.	Record
To gather and record data.	L.O. I am learning to identify living things and non-	To gather and record data to help in answering	To gather and record data to he
To use their observations and ideas to suggest	living things and things that have never been alive.	questions by keeping a food diary.	-
answers to questions	To identify and classify.		answering questions
		L.O. I am learning how to keep myself healthy.	Berland
L.O. I am learning to explain why objects are made	L.O. I am learning about different habitats, which	To ask simple questions.	Review
from different materials and that some are more	living things live where.	To gather and record data to help in answering	To use their observations and i
suitable than others.	To identify and classify.	questions.	to suggest answers to question
AfL - Mid-Point Review - Big Question	L.O. I am learning to identify different plants and		
What materials will I need to build my house?		AfL – End Point Assessment	KNOWLEGDE THREADS
Children have the opportunity to write and draw	animals from specific habitats.	End of Unit Test	Biology
what they would make their house from and why	To gather and record data to help in answering		Animals including humans
what they would make their house from and why	questions about animals and their habitats.		Animals including numans

they chose those materials (collected verbally by CT	To use observations and ideas to suggest answers	How does this link build on previous learning?	Living things and their habitats
during activity)	to questions; giving reasons why certain animals	Identify and name a variety of common animals	Evolution and inheritance
	live in certain habitats, and why they don't live in	that are carnivores, herbivores and omnivores. (Y1 -	Seasons
L.O. I am learning that some materials are natural	others.	Animals, including humans)	Physics
or man-made.			Electricity
To identify and classify.	AfL - Mid-Point Review – Highlight the Bloopers	Identify, name, draw and label the basic parts of	Light
	Read statements about animals that could also	the human body and say which part of the body is	Earth and Space
Scientific Enquiry	have pictures. Children have to spot and highlight	associated with each sense. (Y1 - Animals, including	-
L.O. I am learning what happens to a material when	the mistakes.	humans.	Forces
you squash, twist, stretch, bend it.	E.g. Foxes are four legged reptiles that live in		Sound
To ask simple questions.	woodland. They are carnivores.	Topic Title	Chemistry
To gather and record data.		Plants	Properties and changes of mat
To use observations and ideas to suggest answers	L.O. I can say why an animal is suited and specially		States of matter
to questions.	adapted to a habitat.	Links to NC	Rocks
	To gather and record data to help in answering	Links to NC	
Investigation – Present Wrapping	questions about animals and their habitats.	Observe and describe how seeds and bulbs grow	
L.O. I am learning to explore material properties	To use observations and ideas to suggest answers	into mature plants.	
and their suitability.	to questions; giving reasons why certain animals		
To ask simple questions and recognise that they	live in certain habitats, and why they don't live in	Find out and describe how plants need water, light	
can be answered in different ways.	others.	and suitable temperature to grow and stay healthy.	
To observe closely, using simple equipment			
To perform simple tests.	L.O. I am learning about food chains. (producer,	Key Vocabulary	
To gather and record data to help in answering	consumer, prey).		
questions.		Plant, leaf, petal, flower, stem, growth, light,	
To use their observations and ideas to suggest	AfL – End Point Assessment	control experiment,	
answers to questions.	End of Unit Test		
		Sequence of Lessons	
AfL – End Point Assessment - One to One	How does this link build on previous learning?		
End of Unit Test	Identify and name a variety of common wild and	AfL – Baseline Assessment – Flowers in Spring!	
	garden plants, including deciduous and evergreen	Odd One Out – Explorify	
How does this link build on previous learning?	trees. (Y1 - Plants)		
Distinguish between an object and the material		https://explorify.uk/en/activities/odd-one-	
from which it is made. (Y1 - Everyday materials)	Identify and describe the basic structure of a	out/flowers-in-spring	
nom which it is made. (if - Everyddy materials)	variety of common flowering plants, including		
Identify and name a variety of everyday materials,	trees. (Y1 - Plants)	L.O. I am learning about the features and functions	
including wood, plastic, glass, metal, water, and			
	Identify and name a variaty of common animals	of a plant (petal, leaf, stem, roots)	
rock. (Y1 - Everyday materials)	Identify and name a variety of common animals	To identify and classify.	
	including fish, amphibians, reptiles, birds and	Colombific Francisco Milant de relativas de 10	
Describe the simple physical properties of a variety	mammals. (Y1 - Animals including humans)	Scientific Enquiry – What do plants need?	
of everyday materials. (Y1 - Everyday materials)		L.O. I am learning to find out what plants need to	
Commence and ensure to east the set of the set	Identify and name a variety of common animals	survive - water, light, warmth.	
Compare and group together a variety of everyday	that are carnivores, herbivores and omnivores. (Y1 -	Whole-Class – Big Book	
materials on the basis of their simple physical	Animals including humans)	Change variables to see how/if plants survive:	
properties. (Y1 - Everyday materials)		1 flower in a dark place with water	
	Describe and compare the structure of a variety of	1 flower in sunlight with water	
	common animals (fish, amphibians, reptiles, birds	1 flower in sunlight without water	

		and mammals, including pets). (Y1 – Animals, including humans) Observe changes across the four seasons. (Y1 - Seasonal changes)	To observe closely, using simple equipment. To perform simple tests. To use these observations and ideas to suggest answers to questions. What does this tell us? To gather and record data about my observations. Investigation – Sweet Peas (ongoing throughout unit) L.O. I am learning about the life-cycle of a plant To ask simple questions. To observe closely. To gather and record data to help in answering questions. AfL - Mid-Point Review – Big Question How does your garden grow? What conditions do plants need to thrive? L.O. I am learning about seed dispersal. L.O. I am learning to ask simple questions. AfL – End Point Assessment End of Unit Test	
			How does this link build on previous learning? Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals, including humans) Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (Y1 - Animals, including humans)	
	<u>Topic Title</u> Forces and Magnets (Physics)	<u>Topic Title</u> Rocks and Soils (Chemistry)	<u>Topic Title</u> Plants (Biology)	<u>Cross - Curriculum Links:</u> <u>Literacy:</u> Hedgehog Story - use drama to create an alternative ending to the
Year 3	<u>Links to NC</u> Compare how things move on different surfaces.	Links to NC Compare and group together different kinds of rocks based on their appearance and simple physical properties.	Links to NC Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.	Hedgehog (shadow puppets). Biography of Mary Anning
				<u>Curriculum:</u>

Notice that some forces need contact between two objects, but magnetic forces can act at a distance.	Describe in simple terms how fossils are formed when things that have lived are trapped within	Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and	Italy and the Romans: made gela in a bag using salt and ice.
· · · · · · · · · · · · · · · · · · ·	rock.	room to grow) and how they vary from plant to	
Observe how magnets attract or repel each other		plant.	Stone Age: types of rock for mal
and attract some materials and not others.	Recognise that soils are made from rocks and		tools
	organic matter.	Investigate the way in which water is transported	
Compare and group together a variety of everyday		within plants.	Trips/Workshops/Visitors:
materials based on whether they are attracted to a	Key Vocabulary		Science off the Page – Rocks
magnet and identify some magnetic materials.	Igneous, sedimentary, metamorphic, permeable,	Explore the part that flowers play in the life cycle of	Workshop
Describe magnets as having two pales	impermeable, fossil, loam, clay, sand, chalk.	flowering plants, including pollination, seed	
Describe magnets as having two poles.	Sequence of Locconc	formation and seed dispersal.	
Predict whether two magnets will attract or repel	Sequence of Lessons	Key Vocabulary	
each other, depending on which poles are facing.	Rocks	Roots, tuber, stem, bulb, trunk, branch, leaf,	Whole-School Themed Days
cach other, depending on which poles are facing.	AfL – Baseline Assessment - Big question	flower, fruit, germination, growth, flowering,	Science Day – 7 th October 2023
Key Vocabulary	How are rocks made? (Teacher made)	fertilisation/seed production.	
Magnet, force, push, pull, attract, repel, magnetic,			
metal.	L.O. I am learning to identify and describe the	Sequence of Lessons	WORKING SCIENTIFICALLY THR
	properties of rocks (human/manmade)	AfL – Baseline Assessment – BIG QUESTION	<u></u>
Sequence of Lessons	L.O. I am learning to classify rocks (sedimentary,	'What do plants need to live and grow?'	Plan
	metamorphic, igneous).		To ask relevant questions and u
Magnets		Ongoing Investigation – Cress (plan)	different types of scientific enqu
AfL – Baseline Assessment - True or False?	<u>AfL - Mid-Point Review – Chocky Rocks</u>	L.O. I am learning to explore the requirements of	to answer them
Statements that the children have to discuss and	The little book of experiments – page 17	plants for life and growth (air, light, water,	
explain why they are true or false.	Investigation (2 lessons)	nutrients from soil, and room to grow) and how	To set up simple practical enqui
	L.O. I am learning to describe in simple terms how	they vary from plant to plant.	comparative and fair tests.
Scientific Enquiry - Magnets	fossils are formed when things that have lived are	To ask relevant questions and using different types	
L.O. I am learning to identify which metals are magnetic.	trapped within rock.	of scientific enquiries to answer them. To set up simple practical enquiries.	Do
To ask relevant questions and using different types	- What is sedimentary rock?	To set up simple practical enquines.	To make systematic and careful
of scientific enquiries to answer them	- How do fossils get trapped?	L.O. I can identify the main parts of different	observations and where
To set up simple practical enquiries, comparative	- How do we find them today?	flowering plants.	appropriate, taking accurate
and fair tests.	To set up simple practical enquiries To make systematic and careful observations	L.O. I can explain the functions of the different	measurements using standard u
To make systematic and careful observations and	To gather, record, classify and present data in a	parts of a flowering plant.	using a range of equipment, including thermometers and da
where appropriate, taking accurate measurements;	variety of ways to help in answering questions		loggers
using a range of equipment.	To record findings using simple scientific language,	Ongoing Investigation – Cress (Do & Record))	1058613
To gather, record, classify and present data in a	drawings, labelled diagrams, keys, bar charts, and	L.O. I am learning to explore the requirements of	Record
variety of ways to help in answering questions	tables	plants for life and growth (air, light, water,	To gather, record, classify and
To record findings using simple scientific language,	To use straightforward scientific evidence to	nutrients from soil, and room to grow) and how	present data in a variety of way
drawings, labelled diagrams, keys, bar charts, and	support their findings.	they vary from plant to plant.	help in answering questions
tables.		To make systematic and careful observations.	
Investigation Magnets (2 laccore)	L.O. I am learning to research Mary Anning.	To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and	To record findings using simple
Investigation – Magnets (2 lessons) L.O. I am learning to explore how magnetic forces	L.O. I am learning to use research write a biography	tables.	scientific language, drawings,
act at a distance.			labelled diagrams, keys, bar cha
		Investigation – Carnations	and tables

L.O. I am learning to identify which magnet is the	Soils	L.O. I am learning to investigate the way in which	
most powerful.	L.O. I am learning to recognise that soils are made	water is transported within plants.	Review
To ask relevant questions and using different types	from rocks and organic matter.	To ask relevant questions and using different types	To report on findings from enquiries,
of scientific enquiries to answer them		of scientific enquiries to answer them.	include oral and written
To set up simple practical enquiries, comparative	L.O. I am learning to identify and name different	To set up simple practical enquiries.	explanations, displays or
and fair tests.	soils.	To make systematic and careful observations.	presentations of results and
To make systematic and careful observations and	To record findings using simple scientific language,	To record findings using simple scientific language,	conclusions
where appropriate, taking accurate measurements;	drawings, labelled diagrams, keys, bar charts, and	drawings, labelled diagrams, keys, bar charts, and	
using a range of equipment.	tables	tables.	To use results to draw simple
To gather, record, classify and present data in a	AfL - End of unit Assessment	To use results to draw simple conclusions, make	conclusions, make predictions for
variety of ways to help in answering questions	End of unit test	predictions for new values, suggest improvements	new values, suggest improvements
To record findings using simple scientific language,		and raise further questions.	and raise further questions
drawings, labelled diagrams, keys, bar charts, and	How does this link build on previous learning?	To report on findings from enquiries, include oral	
tables.	Distinguish between an object and the material	and written explanations, displays or presentations	To identify differences, similarities
To use straightforward scientific evidence to	from which it is made. (Y1 - Everyday materials)	of results and conclusions.	or changes related to simple
answer questions or to support their findings.			scientific ideas and processes
Investigation – Slime and Iron Filings (2 lessons)	Identify and name a variety of everyday materials,	<u>AfL - Mid-Point Review – True or False</u>	
L.O. I am learning to explore how magnetic forces	including wood, plastic, glass, metal, water, and	Children to sort statements and explain how they	To use straightforward scientific
act through different materials.	rock. (Y1 - Everyday materials)	know.	evidence to answer questions or to
To ask relevant questions and using different types			support their findings.
of scientific enquiries to answer them	Describe the simple physical properties of a variety	L.O. I can describe the life cycle of a flowering	
To set up simple practical enquiries, comparative	of everyday materials. (Y1 - Everyday materials)	plant; including pollination and seed formation.	KNOWLEGDE THREADS
and fair tests.		L.O. I am learning to explore the part that flowers	Biology
To make systematic and careful observations and	Compare and group together a variety of everyday	play in seed dispersal.	Animals including humans
where appropriate, taking accurate measurements;	materials on the basis of their simple physical		Living things and their habitats
using a range of equipment.	properties. (Y1 - Everyday materials)	Ongoing Investigation – Cress (Record & Review)	Evolution and inheritance
To gather, record, classify and present data in a		L.O. I am learning to explore the requirements of	Seasons
variety of ways to help in answering questions	Identify and compare the suitability of a variety of	plants for life and growth (air, light, water,	Physics
To record findings using simple scientific language,	everyday materials, including wood, metal, plastic,	nutrients from soil, and room to grow) and how	Electricity
drawings, labelled diagrams, keys, bar charts, and tables.	glass, brick, rock, paper and cardboard for particular uses. (Y2 - Uses of everyday materials)	they vary from plant to plant.	Light
To use straightforward scientific evidence to	particular uses. (12 - Oses of everyddy materiais)	To record findings using simple scientific language,	Earth and Space
answer questions or to support their findings.		drawings, labelled diagrams, keys, bar charts, and	Forces
To identify differences, similarities or changes	Topic Title	tables.	Sound
related to simple scientific ideas and processes.	Animals including humans	To use results to draw simple conclusions, make	Chemistry
related to simple scientific ideas and processes.	(Biology)	predictions for new values, suggest improvements	
AfL - Mid-Point Review - Concept Cartoon		and raise further questions.	Properties and changes of materials
Recycling plant with a magnet.	Links to NC	To report on findings from enquiries, include oral	States of matter
Recycling plant with a magnet.	Identify that animals, including humans, need the	and written explanations, displays or presentations	Rocks
Forces	right types and amount of nutrition, and that they	of results and conclusions.	
Scientific Enquiry - Ramps	cannot make their own food; they get nutrition		
LO. I am learning to compare how an object moves	from what they eat.	AfL - End of unit Assessment	
on different surfaces.		End of unit test.	
on amercin surfaces.	Identify that humans and some other animals have		
	skeletons and muscles for support, protection and	How does this link build on previous learning?	

L.O. I am learning that some forces need contact	movement.	Observe and describe how seeds and bulbs grow	
between two objects, but magnetic forces can act		into mature plants. (Y2 - Plants)	
at a distance.	Key Vocabulary		
L.O. To set up simple practical enquiries,	Herbivores, carnivores, omnivores, muscle,	Find out and describe how plants need water, light	
comparative and fair tests	skeleton, endoskeletons, exoskeletons,	and a suitable temperature to grow and stay	
L.O. To make systematic and careful	hydroskeleton	healthy. (Y2 - Plants)	
observations and where appropriate.			
	Sequence of Lessons		
To record findings using simple scientific language,	AfL – Baseline Assessment – Match it!		
drawings, labelled diagrams, keys, bar charts, and	Children matching definitions with meanings in		
tables.	small groups (BB) USE WORDS FROM KEY VOCAB +		
To use straightforward scientific evidence to	Y2 WORDS)		
answer questions or to support their finding.	L.O. I am learning to explain how many portions of		
	food from different food groups we should eat in a		
AfL - End of unit Assessment	day.		
End of unit test	To identify and classify.		
How does this link build on previous learning?	L.O. I am learning to identify that animals, including		
	humans get nutrition from what they eat. (e.g		
Find out how the shapes of solid objects made from	carbohydrates – high energy)		
some materials can be changed by squashing,	To identify and classify.		
bending, twisting and stretching. (Y2 - Uses of			
everyday materials)	L.O. I am learning to recognise and explain the		
	functions of the human skeleton and identify its		
Topic Title	main bones.		
Light	To record findings using simple scientific language,		
(Physics)	drawings, labelled diagrams.		
(1175103)	To use straightforward scientific evidence to		
Links to NC	answer questions or to support their findings.		
Recognise that they need light in order to see			
things and that dark is the absence of light.	AfL - Mid-Point Review - Concept Cartoon		
	Active assessment page 33, and concept cartoons		
Notice that light is reflected from surfaces.	page 17)		
	Extra game – The skeleton game Active assessment		
Recognise that light from the sun can be dangerous	page 69		
and that there are ways to protect their eyes.			
	L.O. I am learning to explain how muscles work.		
Recognise that shadows are formed when the light	To record findings using simple scientific language,		
from a light source is blocked by a solid object.	drawings, labelled diagrams.		
5	To use straightforward scientific evidence to		
Find patterns in the way that the size of shadows	answer questions or to support their findings.		
change.			
Ŭ,	L.O. I am learning to match animals to their		
Key Vocabulary	skeletons.		

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Light, shadow, light source, non-light source,	To record findings using simple scientific language,	
reflector, transparent, translucent, opaque.	drawings, labelled diagrams.	
	To use straightforward scientific evidence to	
Sequence of Lessons	answer questions or to support their findings.	
	L.O. I am learning to identify that animals, including	
AfL – Baseline Assessment - Concept Cartoon	humans have skeletons and muscles for support,	
At the beginning to start (general to topic –	protection and movement.	
Concept cartoon page 137)	To identify and classify.	
L.O. I am learning to identify a light source.	To identity and classify.	
L.O. I all learning to identify a light source.	Aft Fuel of with Assessment	
	AfL - End of unit Assessment	
L.O. I am learning to identify whether an object is a	End of unit test	
light source or a reflector.		
Scientific Enquiry	How does this link build on previous learning?	
L.O. I am learning to understand how shadows are	Identify and name a variety of common animals	
formed.	including fish, amphibians, reptiles, birds and	
To ask/answer relevant questions and using	mammals. (Y1 - Animals, including humans)	
different types of scientific enquiries to answer		
them.	Identify and name a variety of common animals	
To make systematic and careful observations.	that are carnivores, herbivores and omnivores. (Y1 -	
To make systematic and careful observations.	Animals, including humans)	
Aft Mid Daint Daview, Odd One Out		
AfL - Mid-Point Review - Odd One Out		
Active assessment page 109	Describe and compare the structure of a variety of	
(written, pictures, verbal with scribes)	common animals (fish, amphibians, reptiles, birds	
	and mammals, including pets). (Y1 - Animals,	
Investigation -Shadow Puppets Unit (2/3 lessons)	including humans)	
L.O. I am learning to recognise that shadows are		
formed when the light from a light source is	Find out about and describe the basic needs of	
blocked by an opaque object.	animals, including humans, for survival (water, food	
	and air). (Y2 - Animals, including humans)	
L.O. I am learning to group objects according to		
whether they are transparent, translucent or	Describe the importance for humans of exercise,	
opaque.	eating the right amounts of different types of food,	
	5 5 N	
L.O. I am learning to explore how moving a light	and hygiene. (Y2 - Animals, including humans)	
source changes the size of an object's shadow.		
L.O. To set up simple practical enquiries.		
L.O. To make systematic and careful		
observations and where appropriate.		
To record findings using simple scientific language,		
drawings, labelled diagrams, keys, bar charts, and		
tables.		
To gather and present data in a variety of ways to		
help in answering questions.		
To identify differences, similarities or changes		
related to simple scientific ideas and processes.		

 L.O. I am learning to explain how the Sun can be dangerous and ways we can protect ourselves. <u>AfL - End of unit Assessment - own teacher made</u> End of unit test <u>How does this link build on previous learning?</u> Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (Y1 - Animals, including humans) Describe the simple physical properties of a variety of everyday materials. (Y1 - Materials) 			
Topic Title Classification (Biology)Links to NC Recognise that living things can be grouped in a variety of waysExplore and use classification keys to help group, identify and name a variety of living things in their local and wider environmentRecognise that environments can change 	Topic TitleStates of Matter(Chemistry)Links to NCCompare and group materials together, according to whether they are solids, liquids or gasesObserve that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.Key Vocabulary Solid, liquid, gas, matter, temperature, thermometer, melting, freezing, melting point, freezing point, evaporation, boiling, boiling point, condensing, water cycleSequence of LessonsAfL- Baseline Assessment - Sorting Materials into solids, liquids gases. P. 30 Active assessment. Supplementary pictures and charts available on twinkl	Topic Title Electricity (Physics)Links to NC Identify common appliances that run on electricityConstruct a simple series electrical circuit, Identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzersIdentify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a batteryRecognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuitRecognise some common conductors and insulators, and associate metals with being good conductors.Key Vocabulary Battery, bulb, mains, rechargeable, circuit, components, terminals, wire, switch, conductor, insulator	Cross - Curriculum Links: Literacy: Autumn Rainforest Poetry Non-Chronological report about Rainforest creature (Curriculum) Summer Cracking Contraptions – explanation texts. Curriculum: Autumn Rainforest Unit Rainforest Art Jigsaw – Healthy Me Spring Trumpet Lessons (Pitch, Volume etc) Summer DT – design and make torches. Trips/Workshops/Visitors: Visit to Twycross Zoo Whole-School Themed Days Science Day – 7 th October 2023

LO I am learning to explain how living things can be	LO I am learning to identify the properties of solids,	Sequence of Lessons	WORKING SCIENTIFICALLY THREADS
classified.	liquids and gases.		Plan
To make careful observations.	L.O. I am learning to recognise the processes of	<u>AfL – Baseline Assessment - Sorting</u>	To ask relevant questions and using
To sort and classify.	changes in states of matter. (solid to liquid, liquid	Children using pictures of household objects sort	different types of scientific enquiries
· ·	to gas).	them in two groups - those that use mains	to answer them
LO I am leaning to recognise how a simple key		electricity or batteries.	To set up simple practical enquiries,
helps identify living things.	Investigation - Solid to Liquid (2 lessons)	LO I am learning to identify common appliances	comparative and fair tests
To ask relevant questions.	L.O. I am learning to explore the effect of	that run on electricity.	
To make careful observations.	temperature on the processes in states of matter.	LO I am learning to classify and record appliances as	Do
To sort and classify.	To ask relevant questions and using different types	mains or battery operated.	To make systematic and careful
	of scientific enquiries to answer them; to set up	LO I am learning to understand the difference	observations and where
<u>Scientific Enquiry – Bug Hunt</u>	simple practical enquiries, comparative and fair	between mains and battery-operated appliances.	appropriate, taking accurate measurements using standard units,
LO I am learning to observe key features of living	tests;		using a range of equipment,
things.	To make systematic and careful observations and	LO I am learning to understand that electricity can	including thermometers and data
L.O. I am learning to recognise that environments	where appropriate, taking accurate measurements	be dangerous.	loggers
can change and that this can sometimes pose	using standard units, using a range of equipment,		
dangers to living things.	including thermometers and data loggers;	LO I am learning to recognise what is needed in	
To make careful observations.	To gather, record, classify and present data in a	order to make a bulb light in a circuit.	Record
	variety of ways to help in answering questions; to	LO I am learning to recognise and name some of	To gather, record, classify and present data in a variety of ways to
LO I am learning to ask questions that can be used	record findings using simple scientific language,	the components that can be used to make a circuit.	help in answering questions
to construct a key.	drawings, labelled diagrams, keys, bar charts, and	(buzzers, switches, motors, lights)	
To ask relevant questions. To make careful observations.	tables		To record findings using simple
To make careful observations.	To report on findings from enquiries, include oral	AfL - Mid-Point Review - Make it	scientific language, drawings,
Afl Mid Daint Daview, Construct	and written explanations, displays or presentations	Making a simple circuit. Give children equipment	labelled diagrams, keys, bar charts, and tables.
<u>Afl - Mid-Point Review - Construct</u> Children to make a simple flowchart using	of results and conclusions; to use results to draw	and see if they can make a circuit to light a bulb/	and tables.
questions to identify creatures.	simple conclusions, make predictions for new	make a buzzer sound/spin a propeller.	Review
	values, suggest improvements and raise further	LO I am learning to recognise some common	To report on findings from enquiries,
LO I am learning to explore and use classification	questions; to identify differences, similarities or	conductors and insulators.	include oral and written
keys to help group, identify and name a variety of	changes related to simple scientific ideas and		explanations, displays or
living things in my local environment.	processes; to use straightforward scientific	Investigation	presentations of results and conclusions
To ask relevant questions. To make careful observations.	evidence to answer questions or to support their	LO I am learning to recognise some common	conclusions
	findings.	conductors and insulators.	To use results to draw simple
To construct a simple key; to sort and classify.		To ask relevant questions and using different types	conclusions, make predictions for
AfL - End of Unit Assessment	AfL - Mid-Point Review - Sequencing	of scientific enquiries to answer them	new values, suggest improvements
End of unit test	Fill in the diagram to show how water changes it's	To set up simple practical enquiries, comparative	and raise further questions
How does this link build on previous learning?	state. P. 133 Active assessment. LO I am learning to identify the part played by	and fair tests.	To identify differences, similarities
Identify and describe the basic structure of a variety	evaporation and condensation in the water cycle.	To make systematic and careful observations and	or changes related to simple scientific ideas and processes
of common flowering plants, including trees. (Y1 -	To use simple scientific language, drawings,	where appropriate, taking accurate measurements using standard units, using a range of equipment,	section deas and processes
Plants)	labelled diagrams, keys, bar charts, and tables.	including thermometers and data loggers.	
	abened diagrams, keys, bar charts, and tables.		

 Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals including humans) Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Y1 – Animals, including humans) Identify and name a variety of plants and animals in their habitats, including microhabitats. (Y2 - Living things and their habitats) Topic Title Teeth and Eating (Biology) Links to NC Describe the simple functions of the basic parts of the digestive system in humans Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey Molar, canine, incisor, enamel, decay, digestion, mouth, oesophagus, stomach, small intestine, large intestine, anus, nutrients, energy, carnivore, omnivore, herbivore	Afl - End of Unit Assessment End of unit testHow does this link build on previous learning? Distinguish between an object and the material from which it is made. (Y1 - Everyday materials)Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. (Y1 - Everyday materials)Describe the simple physical properties of a variety of everyday materials. (Y1 - Everyday materials)Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Y1 - 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. (Y2 - Uses of everyday materials)Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2 - Uses of everyday materials)	To gather, record, classify and present data in a variety of ways to help in answering questions. To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. To use straightforward scientific evidence to answer questions or to support their findings. AfL - End of Unit Assessment End of unit test How does this link build on previous learning? Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. (Early Learning Goal)	To use straightforward scientific evidence to answer questions or to support their findings. KNOWLEGDE THREADS Biology Animals including humans Living things and their habitats Evolution and inheritance Seasons Physics Electricity Light Earth and Space Forces Sound Chemistry Properties and changes of materials States of matter Rocks
Sequence of LessonsAfL - Baseline Assessment - Agree or Disagree?Do you agree with Ranju? Add 3 questions of your own. P. 89 Active assessment.LO I am learning to classify and identify different types of teeth and their functions.	Topic Title Sound (Physics) Links to NC Identify how sounds are made, associating some of them with something vibrating.		

To make observations and form conclusions.	Recognise that vibrations from sounds travel	
To use scientific language and label diagrams.	through a medium to the ear	
To identify differences, similarities or changes;		
	Find patterns between the pitch of a sound and	
L.O. I am learning to identify the parts and	features of the object that produced it	
functions of a tooth.		
To use scientific language and label diagrams.	Find patterns between the volume of a sound and	
	the strength of the vibrations that produced it	
Investigation – Eggshells & Liquids		
LO. I am learning to explore the importance of	Recognise that sounds get fainter as the distance	
cleaning your teeth.	from the sound source increases.	
To set up simple practical enquiries, comparative		
and fair tests To make systematic and careful observations	Key Vocabulary	
To record findings using simple scientific language,	Vibration, volume, pitch, high, low, loud, quiet, ear,	
drawings, labelled diagrams, keys, bar charts, and	sound insulation, instrument, tune	
tables;		
To record findings using simple scientific language,	Sequence of Lessons	
drawings, labelled diagrams, keys, bar charts, and		
tables.	AfL – Baseline Assessment - Pair Up	
To report on findings from enquiries, include oral	Children to have vocab cards and definition cards, ask them to pair the cards up. (use the vocab	
and written explanations, displays or presentations	above) What do they know?	
of results and conclusions.		
To identify differences, similarities or changes related to simple scientific ideas and processes.	Scientific Enquiry	
related to simple scientific lideas and processes.	LO I am learning to observe and name a variety of	
LO I am learning to identify why and how we must	sources of sound.	
take good care of our teeth.	LO I am learning to identify how sounds are made,	
To make observations and form conclusions.	associating some of them with something vibrating.	
To record findings using scientific language and	To make systematic and careful observations	
labelled diagrams;	To record findings using simple scientific language.	
Afl - Mid-Point Review - True or False?	To report on findings from enquiries, include oral	
Statements about different types of teeth and their	and written explanations, displays or presentations	
functions. Teacher made. Can the children explain and discuss using the correct vocabulary?	of results and conclusions.	
LO I am learning to describe the functions of parts	LO I am learning to identify the parts of the ear.	
of the human digestive system.		
To record findings using scientific language and	<u>Scientific Enquiry - (</u> carousel practical exploration)	
	LO I am learning to recognise that vibrations from	
labelled diagrams.	sounds travel through a medium to the ear.	
	To make systematic and careful observations	
LO I am learning to recognise what a food chain	To record findings using simple scientific language.	
represents.		<u> </u>

LO I am learning to construct and interpret a variety of food chains.LO I am learning to identify producers, predators and prey.To make observations and form conclusions.To record findings using scientific language and labelled diagramsTo identify differences, similarities or changes related to simple scientific ideas and processes;Afl - End of Unit Assessment End of unit test - teeth/digestion	To report on findings from enquiries, include oral and written explanations, displays or presentations of results and conclusions. <u>Afl - Mid-Point Review - True or False?</u> Can the children identify and explain why the sentences are true or false? (focus on sources of sound, parts of the ear – teacher made). LO I am learning to understand how amplitude changes due to the strength of the vibrations that produce it.	
How does this link build on previous learning? Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals, including humans)	LO I am learning to understand how pitch changes due to the features of the object that produced it.	
Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). (Y2 - Animals, including humans)	LO I am learning to recognise that sounds get fainter as the distance from the sound source increases. To ask relevant questions and using different types	
Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Y2 - Animals, including humans)	of scientific enquiries to answer them To set up simple practical enquiries, comparative and fair tests. To make systematic and careful observations and	
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. (Y3 - Animals, including humans)	 where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. To gather, record, classify and present data in a variety of ways to help in answering questions To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions To use straightforward scientific evidence to answer questions or to support their findings. 	
	Afl - End of Unit Assessment End of Unit Test How does this link build on previous learning?	

Topic TitleTopic TitleTopic TitleSpaceTopic TitleLinks to NCLinks to NCDescribe the movement of the Earth, and other planets relative to the Sun in the solar systemLinks to NCCompare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.Links to NCDescribe the Sun, Earth and Moon as planets relative to the Sun, Earth and Moon as compared to the Sun and Moon as to magnets.Know that some materials will dissolve in liquid toKey Vocabulary	Cross – Curricular Links Literacy: The Way Back Home Neil Armstrong biography Curriculum: Topic - Space Topic - Crime and Punishment DST - Source
SpaceMaterialsLiving things and their habitatsLinks to NCLinks to NCDescribe the movement of the Earth, and other planets relative to the Sun in the solar systemLinks to NCCompare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.Links to NCDescribe the difference in the life cycles of a mammal, an amphibian an insect and a birdDescribe the Sun, Earth and Moon asKnow that some materials will dissolve in liquid toKey Vocabulary	Literacy: The Way Back Home Neil Armstrong biography Curriculum: Topic - Space Topic - Crime and Punishment
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Describe the movement of the Earth, and other planets relative to the Sun in the solar systemCompare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.Describe the difference in the life cycles of a mammal, an amphibian an insect and a birdDescribe the Sun, Earth and Moon asKnow that some materials will dissolve in liquid toKey Vocabulary	<u>Curriculum:</u> Topic - Space Topic - Crime and Punishment
planets relative to the Sun in the solar systembased on evidence from comparative and fair tests, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.Describe the life process of reproduction in some plants and animalsDescribe the Sun, Earth and Moon asKnow that some materials will dissolve in liquid toKey Vocabulary	Topic - Space Topic - Crime and Punishment
Describe the movement of the Moon relative to the Earthconductivity (electrical and thermal), and response to magnets.Describe the life process of reproduction in some plants and animalsDescribe the Sun, Earth and Moon asKnow that some materials will dissolve in liquid toKey Vocabulary	Topic - Crime and Punishment
Describe the Sun, Earth and Moon as Know that some materials will dissolve in liquid to Key Vocabulary	
	D&T - Sewn microorganism. Geography- Water Cycle
approximately spherical bodies. form a solution, and describe how to recover a Plant, animals, rainforest, oceans, deserts,	
Use the idea of the Earth's rotation to explain day substance from a solution. reproduction, sexual, asexual, mammal, amphibian incost hird lane Goodall metamorphosis	Trips/Workshops/Visitors: Trip to the National Justice Museum.
and hight and the apparent movement of the sun Use knowledge of solids, liquids and gases to	Space Dome Trip to Jodrell Bank
Key Vocabulary through filtering, sieving and evaporating.	Trip to butterfly farm in Stratford.
Give reasons, based on evidence from comparative	
Solar system, universe, satellite, rotation, orbit, planet, asteroid, meteoroid, star, astronaut, full	Whole-School Themed Days
Year 5 moon, waxing gibbous, half moon, waxing crescent, materials, including metals, wood and plastic.	Science Day – 7 th October 2023
new moon, waning crescent, half moon waning gibbous. Demonstrate that dissolving, mixing and changes of state are reversible changes. C.O. Tam learning to compare the stages of seed growth (asexual – sexual) To use scientific enquiry to answer questions,	
Sequence of Lessons Explain that some changes result in the formation including recognising and controlling variables	WORKING SCIENTIFICALLY THREADS
Aft – Baseline Assessment of new materials, and that this kind of change is not To use test results to make predictions to set up	To plan different types of scientific
Alt - Dasening Assessment usually reversible, include changes associated with further comparative and fair tests. Odd One Out Sun, Earth or Moon burning and the action of acid on bicarbonate of further comparative and fair tests.	enquiries to answer questions, including recognising and controlling
Active Assessment – Teacher Made soda.	variables where necessary.
LO: I am learning to order the planets.	Do
LO: I am learning to compare the size and shape of the Sun Moon and Earth Vocabulary LO. I am learning to compare the stages of seed	To take measurements, using a range of scientific equipment, with
LO: Lam learning to describe the distance, size and Wood, metal, brick, plastic, stone, paper, fabric, growth (asexual – sexual)	increasing accuracy and precision,
movement of all the planets relative to the sun water, ice, glass, temperature, electrical conductor, To take measurements, using a range of scientific	taking repeat readings when appropriate.
To use scientific enquiry to answer questions, mixture, soluble, insoluble, absorbent, permeable, taking repeat readings when appropriate.	To use test results to make
including recognising and controlling variables where necessary. translucent, flexible. Hard, flammable, insulating, transparent. LO: I am learning to describe how some plants reproduce.	predictions to set up further comparative and fair tests.

	Sequence of Lessons		
LO: I am learning to use the idea of the Earth's		L.O: I am learning how seeds germinate.	Record
rotation to explain day and night and the apparent	AfL – Baseline Assessment – Concept Cartoon		To record data and results of
movement of the Sun across the sky.	Concept Cartoon to establish prior knowledge from	LO: I am designing a new plant.	increasing complexity using scientific
To make systematic and careful observations.	year 4 Liquids p.46		diagrams and labels, classification
		Afl - Mid-Point Review	keys, tables, scatter graphs, bar and
AfL - Mid-Point Review	LO: I am learning to compare everyday materials	Spot the deliberate mistake.	line graphs
Drawing and annotation drawing Active	according to their properties and explain why they	Active Assessment p.58	
Assessment P. 65 (teacher adapted)	have been used.		Review
	To use scientific enquiries to answer questions.	L.O: I am learning to describe the life cycles of	To report and present findings from
LO: I am learning about the rotation and orbit of	To make systematic and careful observations.	different mammals.	enquiries, including conclusions,
the moon and how we can see it in the sky.	To report and present findings from enquiries.		causal relationships
		LO: I am learning to compare the life cycle of	and explanations, results,
LO: To investigate what stars are and their	Investigation – Bulb Brightness (1-2 lessons)	amphibians and insects.	explanations of and degree of trust
constellations.	LO: I am learning about electrical conductors.	LO: I am learning to compare life cycles of plants,	in results, in oral and written forms
	To use scientific enquiry to answer questions,	mammals, amphibians, insects and birds.	such as displays and other
Investigation (1-2 lessons)	including recognising and controlling variables	manimais, ampribians, insects and birds.	presentations.
L.O. I am learning investigate the impact made to a	where necessary;	LO: I learning to explain what Jane Goodall	
surface by objects falling from space.	To use test results to make predictions to set up	discovered about chimpanzees.	To identify scientific evidence that
I am learning to take measurements, using a range	further comparative and fair tests.		has been used to support or refute
of scientific equipment, with increasing accuracy	To use a range of scientific	Investigation – Seeds (record & review)	ideas or
and precision, taking repeat readings when	equipment, with increasing accuracy and precision,	L.O. I am learning to compare the stages of seed	arguments.
appropriate.	taking repeat readings when appropriate.	growth (asexual – sexual)	
To record data and results of increasing complexity	To record data and results of increasing complexity	To record data and results of increasing complexity	KNOWLEGDE THREADS
using scientific diagrams and labels.	using tables and labels.	using scientific diagrams and labels, classification	Biology
To report and present findings from enquiries,	To identify scientific evidence that has been used to	keys, tables, scatter graphs, bar and line graphs	Animals including humans
including conclusions, explanations in oral and	support or refute ideas or arguments.	To report and present findings from enquiries,	Living things and their habitats
written forms such as displays and other		including conclusions, causal relationships	Evolution and inheritance
presentations.		and explanations and degree of trust in results, in	Seasons
		oral and written forms.	Physics
Afl - End of Unit Assessment	Investigation – Insulators (1-2 lessons)		Electricity
End of unit test.	LO: I am learning about thermal conductors.	Afl - End of Unit Assessment	Light
	To use scientific enquiry to answer questions,	End of unit test.	Earth and Space
How does this link build on previous learning?	including recognising and controlling variables		Forces
Children have been learning about the different	where necessary.		
seasons (Y1 – Seasons).	To use test results to make predictions to set up	How does this link build on previous learning?	Sound
Children have previously considered the sun as a	further comparative and fair tests.	Notice that animals, including humans, have	<u>Chemistry</u>
light source, the dangers and ways to protect	To use a range of scientific	offspring which grow into adults. (Y2 - Animals,	Properties and changes of materials
ourselves (Y3 Light)	equipment, with increasing accuracy and precision,	including humans)	States of matter
	taking repeat readings when appropriate.		Rocks
Topic Title	To record data and results of increasing complexity	Explore the part that flowers play in the life cycle of	
Forces	using tables and labels.	flowering plants, including pollination, seed	
	To identify scientific evidence that has been used to	formation and seed dispersal. (Y3 - Plants)	
Links to NC	support or refute ideas or arguments.		
	Afl Mid Doint Dovinus (1 losson)	Topic Title	
	Afl - Mid-Point Review (1 lesson)		

Explain that unsupported objects fall towards the	Conductors and Insulators – Active Assessment	Animals including humans
Earth because of the force of gravity acting	Page 46	
between the Earth and the falling object		Links to NC
	Investigation (Independent) – Dissolving	Describe the changes as humans develop to old age
Identify the effect of air resistance, water	(1-2 lessons)	
resistance and friction, that act between moving	LO: I am learning about soluble and insoluble	Key Vocabulary
surfaces	materials.	Human, development, baby, toddler, child,
	To use scientific enquiry to answer questions,	teenager, adult, puberty, gestation, length, mass,
Recognise that some mechanisms including levers,	including recognising and controlling variables	grows and growing.
pulleys and gears allow a smaller force to have a	where necessary.	
greater effect	To use test results to make predictions to set up	Sequence of Lessons
Key Vocabulary	further comparative and fair tests.	
Friction, force, balanced, gravity, newton, air	To use a range of scientific	<u>AfL – Baseline Assessment</u>
resistance, water resistance, buoyancy streamlined,	equipment, with increasing accuracy and precision,	Sequence human life cycle stages
lever, pulley, gear, mechanism and equal.	taking repeat readings when appropriate.	
icver, pulley, gear, mechanism and equal.	To record data and results of increasing complexity using tables and labels.	LO: I am learning to describe the stages of human
Sequence of Lessons	To identify scientific evidence that has been used to	development.
	support or refute ideas or arguments	L.O: I am learning to explain how a baby changes physically as it grows, and also what it is able to do.
AfL – Baseline Assessment - Definitions	support of refute fideas of alguments	physically as it grows, and also what it is able to do.
Word definitions p. 145 Active Assessment		LO: I am learning to describe and explain the main
(return to this at the end of unit)		changes that occur during puberty.
Plus Falling stone p. 137 Active Assessment		changes that occur during publicity.
		LO: I am learning to identify changes that occur in
LO: I am learning to identify forces acting on	Practical Enquiry – Separating Mixtures	old age.
objects.	LO: I am learning to use different processes to	
Practical Enquiry (whole-class)	separate mixtures of materials.	End of unit
LO: I am learning to explore the impact gravity has	L.O. I am learning to use a range of scientific	End of unit test.
between falling objects and the Earth.	equipment, with increasing accuracy and precision,	
To use scientific enquiries to answer questions.	taking repeat readings when appropriate.	How does this link build on previous learning?
To report and present findings from enquiries,	To record data and results using scientific diagrams.	Notice that animals, including humans, have
including conclusions.		offspring which grow into adults. (Y2 - Animals,
	LO: I am learning to identify reversible and	including humans)
Investigation – Parachutes (1-2 lessons) LO: I am learning to explore the effects of air	irreversible changes.	
resistance.	After Fund of Linit Association	
To plan different types of scientific enquiries to	<u>Afl - End of Unit Assessment</u> End of unit test.	
answer questions, including recognising and	End of unit test.	
controlling variables where necessary;	How does this link build on previous learning?	
To use test results to make predictions to set up	Identify and compare the suitability of a variety of	
further comparative and fair tests.	everyday materials, including wood, metal, plastic,	
To record data in a table.	glass, brick, rock, paper and cardboard for	
To report and present findings from enquiries,	particular uses. (Y2 - Uses of everyday materials)	
including conclusions.	· · · · · · · · · · · · · · · · · · ·	
	Find out how the shapes of solid objects made from	
	some materials can be changed by squashing,	

<u> т</u>		bending, twisting and stretching. (Y2 - Uses of
	Concept Cartoon Space Rocket p.92	everyday materials)
	Practical Scientific Enquiry	everyady materialsy
	LO: I am learning to explore the effects of water	Compare and group together a variety of everyday
	resistance.	materials on the basis of whether they are
	To record data and results of increasing complexity	attracted to a magnet, and identify some magnetic
	using scientific diagrams and labels.	materials. (Y3 - Forces and magnets)
	using selentine diagrams and labels.	
	Investigation - Ramps	Compare and group materials together, according
	LO: I am learning to explore the effects of friction.	to whether they are solids, liquids or gases. (Y4 -
	To take measurements, using a range of scientific	States of matter)
	equipment, with increasing accuracy and precision,	
	taking repeat readings when appropriate.	Observe that some materials change state when
	To record data and results of increasing complexity	they are heated or cooled, and measure or
	using scientific diagrams and labels, tables, bar and	research the temperature at which this happens in
	line graphs.	degrees Celsius (°C). (Y4 - States of matter)
	To identify scientific evidence that has been used to	
	support or refute ideas arguments (Polar Bear from	Identify the part played by evaporation and
	Plan Assessment)	condensation in the water cycle and associate the
		rate of evaporation with temperature. (Y4 - States
	LO: I am learning to explore mechanisms.	of matter)
	LO: I am learning to identify situations where I will	
	need a lever, pulley or gear.	Topic Title
	need a level, pulley of geal.	Super Scientist (Optional Extra Unit)
	Afl - End of Unit Assessment	Links to NC
	End of unit test	Pupils might work scientifically by carrying out tests
		to answer questions
	How does this link build on previous learning?	
	Compare how things move on different surfaces.	Key Vocabulary
I	(Y3 - Forces and magnets)	Forensic, Fingerprint, Chromatography, Microscope
		DNA, Evidence
	Notice that some forces need contact between two	
	objects, but magnetic forces can act at a distance.	Sequence of Lessons
1	(Y3 - Forces and magnets)	
	Observe her megnets attract as read each other	<u>Afl – Baseline Assessment</u>
	Observe how magnets attract or repel each other	Draw and write about what a scientist looks like.
	and attract some materials and not others. (Y3 - Forces and magnets)	
	Forces and magnets)	LO: I am learning to describe what a scientist is and
	Compare and group together a variety of everyday	the different ways in which they work.
	materials on the basis of whether they are	
	attracted to a magnet, and identify some magnetic	LO: I am learning to carry out some forensics tests.
	materials. (Y3 - Forces and magnets)	LO: I am learning to use forensic tests to solve a
		crime.
		crime.

	Describe magnets as having two poles. (Y3 - Forces and magnets) Predict whether two magnets will attract or repel each other, depending on which poles are facing. (Y3 - Forces and magnets)	<u>AfL – End – Point Review - Cartoon Strip</u> Cartoon strip of a crime scene to say how they would solve who did it?		
	Topic Title	Topic Title	Topic Title	Cross - Curriculum Links:
	Classifying Critters	Let It Shine	Electrifying	Literacy:
	(Biology)	(Physics)	(Physics)	The Peppered Moth
	Links to NC	Links to NC	Links to NC	Curriculum:
	Describe how living things are classified into broad	Recognise that light appears to travel in straight	Associate the brightness of a lamp or the volume of	DT – making light up cards using
	groups according to common observable	lines	a buzzer with the number and voltage of cells used	circuits
	characteristics and based on similarities and		in the circuit	PE – exercise measuring heartrate,
	differences, including microorganisms, plants and	Use the idea that light travels in straight lines to		effects of exercise on the heart
	animals	explain that objects are seen because they give out	Compare and give reasons for variations in how	
		or reflect light into the eye	components function, including the brightness of	Trips/Workshops/Visitors:
	Give reasons for classifying plants and animals		bulbs, the loudness of buzzers and the on/off	Evolution - CSI workshop
	based on specific characteristics.	Explain that we see things because light travels	position of switches	Children looked into DNA and how
	Key Maashulamu	from light sources to our eyes or from light sources		everybody has a unique fingerprint –
	Key Vocabulary Flora/ Fauna/ Vertebrate/	to objects and then to our eyes	Use recognised symbols when representing a simple circuit in a diagram.	even identical twins. Light
	Invertebrate/Mammal/Bird/Amphibian/Reptile/Fis	Use the idea that light travels in straight lines to	simple circuit in a diagram.	Science Dome - visit to hook children
	h/Fungi/Mushroom/	explain why shadows have the same shape as the	Key Vocabulary	into the topic. This session covers
Year 6	Toadstool/Fermentation/	objects that cast them.	Component/. Cell/ Complete/Electron/ Fuse/Blow/	the whole unit in a snapshot.
	Microbe/Bacteria/Species/ Genus/ Organisms/		Filament/ Cell/ Battery/ Renewable/Solar	
	Bacteria	Key Vocabulary		
		Light ray/Cornea:/ Pupil/ Iris/Reflection/	Sequence of Lessons	
	Sequence of Lessons	Symmetry/Rainbow	AfL – Baseline Assessment - Poster	
	AfL - Baseline Assessment - Odd one out		Our poster about how a bulb lights up an electric	
	Give the children a variety of different series of	Sequence of Lessons	circuit. What do you think? P. 114 Active	Whole-School Themed Days
	animal pictures and they have to spot the odd one	<u> AfL – Baseline Assessment – Concept Cartoon</u>	Assessment	Science Day – 7 th October 2023
	out. Explain why?	Shadow Screen – Page 100		
	Teacher made. Chance to check understanding of		Scientific Enquiry – How do circuits work?	
	animal groups and features.	LO: I am learning to explain how we see.	LO: I am learning to recognise what is needed to	
	LO: I am learning to classify organisms (vertebrates	To record using simple scientific language,	make a circuit work.	
	and invertebrates)	drawings, labelled diagrams.	L.O. I am learning to use recognised symbols when	
	To record data using classification keys.		representing a simple circuit in a diagram.	WORKING SCIENTIFICALLY THREADS
	LO: I am learning to classify similar organisms.	Investigation – How can you change the size of a	Investigation – Bulb Brightness (2 lessons)	Plan
	To use closed questions to answer scientific	shadow?	L.O. I am learning to explore the brightness of a	To plan different types of scientific
	enquiries.		lamp with the number and voltage of cells used in	enquiries to answer questions,

To record data using classification keys.	LO: I am learning to explain why shadows have the	the circuit and give reasons for variations in how	including recognising and controllin
	same shape as the object that casts them.	the components function.	variables where necessary
LO: I am learning to classify plants.	To plan different types of scientific enquiries to	To plan different types of scientific enquiries to	
To record data using classification keys.	answer questions, including recognising and	answer questions, including recognising and	Do
	controlling variables where necessary.	controlling variables where necessary.	To take measurements, using a
LO: I am learning to describe how living things are	To use test results to make predictions to set up	To use test results to make predictions to set up	range of scientific equipment, with
classified based upon specific characteristics –	further comparative and fair tests.	further comparative and fair tests.	increasing accuracy and precision,
Linnaeus.	To take measurements, using a range of scientific	To take measurements, using a range of scientific	taking repeat readings when
To use closed questions to answer scientific	equipment, with	equipment, with increasing accuracy and precision.	appropriate.
enquiries.	increasing accuracy and precision, taking repeat	To record data and results of increasing complexity	
To record data using scientific diagrams and labels.	readings when appropriate	using scientific diagrams and labels, classification	To use test results to make
с с с	To record data and results.	keys, tables, scatter graphs, bar and line graphs.	predictions to set up further
<u> Afl - Mid-Point Review – Concept Cartoons</u>	To report and present findings from enquiries,	To report and present findings from enquiries,	comparative and fair tests.
Page 37 – Making Bread (this activity leads into the	including conclusions.	including conclusions and results, explanations of	
lesson & investigation)	U	and degree of trust in results, in oral and written	
	Practical Enquiry – Using Mirrors	forms.	Record
Investigation – Yeast – Big Book (whole class)	LO: I am learning to understand how mirrors reflect	To identify scientific evidence that has been used to	To record data and results of
LO: I am learning to identify the characteristics of	light.	support or refute ideas or arguments.	increasing complexity using scienti
different types of microorganisms.	To plan different types of scientific enquiries to		diagrams and labels, classification
LO: I am learning to describe and investigate	answer questions (plan and record a short video)	Investigation – Buzzer Loudness (2 lessons)	keys, tables, scatter graphs, bar an
helpful and harmful micro- organisms.	To report and present findings from enquiries,	L.O. I am learning to explore the volume of a buzzer	line graphs
To plan different types of scientific enquiries to	including conclusions (short video)	the number and voltage of cells used in the circuit	inc graphs
answer questions, including recognising and	including conclusions (short video)	and give reasons for variations in how the	Review
controlling variables where necessary	LO: I am learning to investigate how refraction	components function.	To report and present findings from
To use test results to make predictions to set up	changes the direction in which light travels.	To plan different types of scientific enquiries to	enquiries, including conclusions,
further comparative and fair tests	To use scientific enquiry to answer questions,	answer questions, including recognising and	causal relationships
To record data and results using scientific diagrams,	including recognising and controlling variables	controlling variables where necessary.	and explanations, results,
labels and tables.	where necessary.	To use test results to make predictions to set up	explanations of and degree of trust
To report and present findings from enquiries,	To use test results to make predictions.	further comparative and fair tests.	in results, in oral and written forms
including conclusions, causal relationships	To record data and results.	To take measurements, using a range of scientific	such as displays and other
and explanations, results, in oral and written forms.	To report and present findings from enquiries,	equipment, with increasing accuracy and precision.	presentations;
To identify scientific evidence that has been used to	including conclusions.	To record data and results of increasing complexity	presentations,
support or refute ideas or arguments.	including conclusions.	using scientific diagrams and labels, classification	To identify scientific evidence that
support of relate ideas of alguments.	Afl - Mid-Point Review - Annotated Drawings	keys, tables, scatter graphs, bar and line graphs.	has been used to support or refute
	How We See - Active Assessment – Page 66	To report and present findings from enquiries,	ideas or arguments.
	How we see - Active Assessment - Page 66	including conclusions and results, explanations of	lueas of arguments.
Investigation Prood Mold (2 Jacques)		and degree of trust in results, in oral and written forms.	
Investigation – Bread Mold (2 lessons)	Scientific Enguing Lieng Prices		KNOWLEGDE THREADS
LO: I am learning to identify the characteristics of different types of microorganisms.	<u>Scientific Enquiry – Using Prisms</u> LO: I am learning to investigate how a prism	To identify scientific evidence that has been used to support or refute ideas or arguments.	Biology
LO: I am learning to describe and investigate	changes a ray of light.	support of refute liceas of arguments.	Animals including humans
		Afl. End of Unit Associations	Living things and their habitats
helpful and harmful micro- organisms.	To use scientific diagrams and labels.	Afl – End of Unit Assessment	Evolution and inheritance
To plan different types of scientific enquiries to	Coloratific Francisco - Univer Coloran Dodall	End of unit test	Seasons
answer questions, including recognising and	Scientific Enquiry – Using Colour Paddles		Physics

Physics

Electricity

How does this link build on previous learning?

LO: I am learning to investigate how light enables us to see colours.

controlling variables where necessary.

To use test results to make predictions to set up		Identify common appliances that run on electricity.	Light
further comparative and fair tests	LO: I am learning to explore the work of Newton.	(Y4 - Electricity)	Earth and Space
To record data and results using scientific diagrams,			Forces
labels and tables.	Afl - End of Unit Assessment	Construct a simple series electrical circuit,	Sound
To report and present findings from enquiries,	End of unit test.	identifying and naming its basic parts, including	Chemistry
including conclusions, causal relationships		cells, wires, bulbs, switches and buzzers. (Y4 -	Properties and changes of materia
and explanations, results, in oral and written forms.	How does this link build on previous learning?	Electricity)	States of matter
To identify scientific evidence that has been used to	Recognise that they need light in order to see		
support or refute ideas or arguments.	things and that dark is the absence of light. (Y3 -	Identify whether or not a lamp will light in a simple	Rocks
	Light)	series circuit, based on whether or not the lamp is	
LO: I am learning to investigate the work of		part of a complete loop with a battery. (Y4 -	
scientists (Linnaeus).	Notice that light is reflected from surfaces. (Y3 -	Electricity)	
	Light)		
Afl - End of Unit Assessment		Recognise that a switch opens and closes a circuit	
End of Unit Test	Recognise that light from the sun can be dangerous	and associate this with whether or not a lamp lights	
	and that there are ways to protect their eyes. (Y3 -	in a simple series circuit. (Y4 - Electricity)	
How does this link build on previous learning?	Light)		
Recognise that living things can be grouped in a		Recognise some common conductors and	
variety of ways. (Y4 - Living things and their	Recognise that shadows are formed when the light	insulators, and associate metals with being good	
habitats)	from a light source is blocked by an opaque object.	conductors. (Y4 - Electricity)	
	(Y3 - Light)		
Explore and use classification keys to help group,			
identify and name a variety of living things in their	Find patterns in the way that the size of shadows		
local and wider environment. (Y4 - Living things and	change. (Y3 - Light)		
their habitats)			
	Compare and group together everyday materials on		
Describe the differences in the life cycles of a	the basis of their properties, including their		
mammal, an amphibian, an insect and a bird. (Y5 -	hardness, solubility, transparency, conductivity		
Living things and their habitats)	(electrical and thermal), and response to magnets.		
	(Y5 - Properties and changes of materials)		
Describe the life process of reproduction in some			
plants and animals. (Y5 - Living things and their			
habitats)	Topic Title		
	Staying Alive		
Topic Title	(Biology)		
We are Evolving			
(Biology)	Links to NC		
	Identify and name the main parts of the human		
Links to NC	circulatory system, and describe the functions of		
Recognise that living things have changed over time	the heart, blood vessels and blood		
and that fossils provide information about living			
things that inhabited the Earth millions of years ago	Recognise the impact of diet, exercise, drugs and		
	lifestyle on the way their bodies function		
Recognise that living things produce offspring of			
the same kind, but normally offspring vary and are	Describe the ways in which nutrients and water are		
not identical to their parents	transported within animals, including humans.		

Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	Key Vocabulary Heart/Lungs/ Blood/ Oxygen/ Vein/Artery/ Heart/ Exercise/ Addiction/ Nicotine		
Key Vocabulary	Sequence of Lessons		l
Variety/Inherited Evolution/ Adaptation/ Natural			
selection/ Fossil/ Dinosaur/ Prehistoric	AfL – Baseline Assessment – Labelling Children to label the human digestive system and		
Sequence of Lessons	explain the parts' functions.		
<u> AfL – Baseline Assessment – True or False</u>	LO: I am learning to identify and name the main		
Children to sort statements based on previous key stage knowledge, oral discussions important here	parts of the human circulatory system.		
to gauge prior knowledge. Teacher made.	LO: I am learning to describe the functions of the circulatory system.		
LO: I am learning to recognise that living things		1	1
produce offspring of the same kind.	LO: I am learning to explain how water and		1
	nutrients are transported within the body.		
LO: I am learning to explain adaptation.			
	LO: I am learning to describe how diet and exercise impact on the body.		1
	impact on the body.		
	Afl - Mid-Point Review		
Scientific Enquiry – Beaks	Poster explaining the effects of diet and exercise on		1
LO: I am learning to recognise that living things	the body-show positive and negative effects.		1
evolve over time (Darwin).	Investigation – Pulse Rate		1
To use test results to make predictions.	L.O. I am learning to investigate the impact of		
To record data using scientific diagrams and labels.	exercise on the body.		
To record data using scientific diagrams and labels.	To plan a scientific enquiry to answer questions.		
LO: I am learning to recognise that living things	To use test results to make predictions to set up		
evolve over time. (Peppered Moth)	further comparative and fair tests.		
To present evidence about how environmental	To take measurements with increasing accuracy and precision, taking repeat readings when		
changes affected	appropriate.		
the population of peppered moths.	To record data and results of increasing complexity		
	using scientific diagrams and labels, classification		
Afl - Mid-Point Review – Creation	keys, tables, scatter graphs, bar and line graphs.		
Design a new plant or animal to live in a particular	To report and present findings from enquiries,		
habitat.	including conclusions, causal relationships		
	and explanations, results, explanations of and		
LO: I am learning to use fossils to understand how	degree of trust in results, in oral and written forms		
living things have evolved over time.	such as displays and other presentations;		
	To identify scientific evidence that has been used to	1	1
LO: I am learning to explain how adaptations can	support or refute ideas or arguments.		1

	LO: I am learning to explain the impact of drugs and	
Ongoing throughout topic:	alcohol on the body.	
LO: I am learning to investigate the work of famous	alcohor on the body.	
scientists/paleontologists (Anning/Darwin)	Afl - End of Unit Assessment	
scientists/paleontologists_Anning/Darwin/	End of unit test	
Afl - End of Unit Assessments		
End of unit test.	How does this link build on previous learning?	
End of unit test.	Describe the importance for humans of exercise,	
How does this link build on previous learning?	eating the right amounts of different types of food,	
Identify that most living things live in habitats to	and hygiene. (Y2 - Animals, including humans)	
which they are suited and describe how different	and hygiene. (12 - Animais, including humans)	
habitats provide for the basic needs of different	Identify that animals, including humans, need the	
kinds of animals and plants, and how they depend	right types and amount of nutrition, and that they	
on each other. (Y2 - Living things and their habitats)	cannot make their own food; they get nutrition	
	from what they eat. (Y3 - Animals, including	
Notice that animals, including humans, have	humans)	
offspring which grow into adults. (Y2 - Animals,		
including humans)	Describe the simple functions of the basic parts of	
Explore the part that flowers play in the life cycle of	the digestive system in humans. (Y4 - Animals,	
flowering plants, including pollination, seed	including humans)	
formation and seed dispersal. (Y3 - Plants)	Identify the different types of teeth in humans and	
Describe in simple terms how fossils are formed	their simple functions. (Y4 - Animals, including	
when things that have lived are trapped within	humans)	
rock. (Y3 - Rocks)		
Recognise that environments can change and that		
this can sometimes pose dangers to living things.		
(Y4 - Living things and their habitats)		
Describe the life process of reproduction in some		
plants and animals. (Living things and their habitats		
- Y5)		

Working Scientifically threads	Key Knowledge Threads
Plan	Biology
Do	Animals including humans
Record	Living things and their habitats
Review	Evolution and inheritance
	Seasons
	Physics
	Electricity
	Light

Earth and Space
Forces
Sound
Chemistry
Properties and changes of materials
States of matter
Rocks