\frown		SCIENCE			DUCT PR
(EYFS)		Cycle 2 Long	Term Coverage		
		Building tamarraw leading	na tha way		3CHOOK
Autumn 1— Why are we special?	Autumn 2— Can you tell me a tale?	Spring 1— Why are animals amazing?	Spring 2— Can we go and explore?	Summer I— What happened before?	Summer 2— Why is there commotion in the ocean?
POSITIVITY	SAFETY	RESPECT	LEARNING	HAPPINESS	KINDNESS
Harvest	Autumn Walk—Changes in the environment	Animal Man Visit	Spring Walk	Space day 12.4.23	Healthy Eating Week 12-16 June
	Christmas Winter Wonderland		Science Week		
Voca hair (e.g. black, brown, dark, light, blonde, gin- ger, grey, white, long, short, straight, curly), eyes (e.g. blue, brown, green, grey), skin (e.g. black, brown, white), big/tall, small/short, big- ger/smaller, baby, toddler, child, adult, old per- son, old, young, brother, sister, mother, father, aunt, uncle, grandmother, grandfather, cousin, friend, family, boy, girl, man, woman	spring, summer, autumn, winter, seasons, sunny, cloudy, hot, warm, cold, shower, raining, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, windy, rainbow, animals, young, plants, flowers sun, light, shadow, shady, clouds, torch, see- through, not see-through, source, light source sound, noise, listen, hear, music, voices, bird song, traffic, sirens, high, low, loud, quiet, soft, volume, crackle, hum, buzz, roar Moon, Earth, star, planet, sky, day, night, round, bounce, float	Vocabulary Animals they see, name of a contrasting envi- ronment (e.g., beach, forest) habitat, Artic, Antarctic, ice, melt, water, frozen, hot, cold, life cycles, egg, pupa, larvae, chrysalis, butter- fly, caterpillar, tadpole, froglet, frogspawn, frog, hibernation, live, on land, in water, jungle, desert, North Pole, South Pole, sea,wet, dry, snow	Vocabulary Tree, bush, herb, names of plants they see, root, shoot, stem, leaves, flower, growth, soil, water, sunshine, light, vegetable, weed	Vocabulary ice, water, frozen, icicle, snow, melt, wet, cold, slippery, smooth, big, bigger, biggest, smaller, smaller, smallest, hard, soft, bendy, rigid, wood, plastic, paper, card, metal, strong, weak, hot, apply heat, waterproof, soggy, not waterproof, best, change, change back Surface, move, roll, drop, fly, turn, spin, fall, fast, slow, faster, slower, fastest, slowest, further, furthest, wind, air, water, blow, bounce	Vocabulary float, sink, up, down, top, bottom, Animals they see, name of a contrasting environment (e.g., beach, forest) habitat,
		Working Scienti	ifically Objectives		
	·	explore, problem solve, observe, predict, think, m <u>Plants—acr</u> Understand the effect of changing se	ake decisions and talk about the world around ther r <u>oss the year</u> casons on the natural world around them.	n.	
Learning	Learning	Learning	Learning	Learning	Learning
• Seasons—changes all around	• Explore the natural world.	• Animals and their young	Gardening/Planting	• Space	• Floating and sinking
• Why I am special—differences	 Describe what they see, hear and feel whilst outside. 	• Animals around the world	Exploring our natural environment	Rocket launching—science experiment	Everyday materials—uses
Being and staying healthy	• Will understand the effect of changing	Hibernation	Forest School Misroscopes and seads	Planets Neil Armetrone	Different boats David Attenbarguah_Plug Planet_seg
 Looking after teeth Exploring new environments and experi- 	seasons on the natural world around them.	 Night and day animals Weather/seasons/climate variations 	 Microscopes and seeds Dissect seeds from fruits and vegeta- 	 Neil Armstrong How things work 	 David Attendorougn—Blue Planet—Sea creatures in warm/cold waters
ences (food, play, town centre), explore similarities and differences, creating	Materials—three pigs houses	• Changes in the environment, weather,	bles	 Magnets/forces 	 Plastic and the Oceans—protecting our planet.
 Changes—Baby—5Years 	 Materials—Making bridges for the three goats 	aldson	Healtny/unnealtny eating Growing	 Forces—using ramps with different textures/magnets 	Recycling
5 ,	 Changes in state—oats to porridge 	Life cycles	 Looking after teeth 		• Transportation of water from one desti- nation to another
	(3Bears)	Mini Beasts	• Seasons		
			• Life cycles		
		Bird Watching	• Plant diary		
		 Ice Experiments 	• Weather experiments		
		 Davis Attenborough—The Frozen Plan- et—The Emperor's Egg. 	 Weather Forecast videos Forest school—Patterns and change 		
		• Animals from around the world	Recycling		
		Outcomes & Assessment - Underst	tanding the World - Early Learning Goal		
Science: The Natural World	Science: The Natural World	Science: The Natural World	Science: The Natural World	Science: The Natural World	Science: The Natural World
Children will understand the terms 'same' and 'different'.	Children will explore and ask questions about the natural world around them.	Children understand the effect of changing seasons on the natural world around them, in- cluding changes in state	Children will make observations about plants discussing similarities and differences.	Children will know some important processes and changes in the natural world, including states of matter	Children will know some important processes and changes in the natural world.
FLC: The Natural World: Explore the n	atural world around them making observ	vations and drawing pictures of animals of	Children will talk about features of the environ- and plants. Know some similarities and di	fferences between the natural world an	ound them and contrasting environments

drawing on their experiences and what has been read in class. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Necessary evidence collected in Class Learning Journey/ Individual books.



	Science: The Natural World
ant processes ld, including	Children will know some important processes and changes in the natural world.

		SCI	ENCE		SEDUCT PALLS
(YI)	00	Cycle 2	Long Term Coverage		
	J.L.	Building tomorrow	r, leading the way		CHOO
Autumn 1—Seasonal changes	Autumn 2—Animals including humans	Sprin	ng 1 & 2 —Everyday materials	Summer 1—Animals including humans	Summer 2—Plants
POSITIVITY	SAFETY	RESPECT	LEARNING	HAPPINESS	KINDNESS
Harvest	Remembrance/ Christmas		British Science Week WB 13.03.2023		
Voc	abulary	Vocabulary	Vocabulary	Vocabulary	Vocabulary
weather, sunny, rainy, raining, shower, windy, snowy, cloudy, hot, warm, cold, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, rainbow, seasons, winter, summer, spring, au- tumn, Sun, sunrise, sunset, day length	head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves, names of animals experienced first-hand from each vertebrate group, parts of the human body including those within the school's RSE policy, senses, touch, see, smell, taste, hear, fingers, skin, eyes, nose, ears, tongue	object, material, wood, plastic, glass, metal, wat soft, stretchy, stiff, bendy, floppy, waterproof,	ter, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, ; absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through	head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves, names of animals experienced first-hand from each vertebrate group, parts of the human body including those within the school's RSE policy, senses, touch, see, smell, taste, hear, fingers, skin, eyes, nose, ears, tongue	leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud, names of trees in the local area, names of garden and wild flowering plants in the local area
Working Scient	ifically Objectives	Working Scientifically Objective	Working Scientifically Objectives	Working Scientifically Objectives	Working Scientifically Objectives
Observing closely	Identifying and classifying	Performing simple tests		Observing closely	Observing closely using simple equipment—magnifying glasses
Using their observations and ideas to suggest answers to questions		Using their observations and ideas to suggest ar	nswers to questions		Identifying and classifying

Identifying and classifying

Plants—across the year

Pupils should use the local environment throughout the year to explore and answer questions about plants growing in their habitat. Where possible, they should observe the growth of flowers and vegetables that they have planted (across the year). Also using school planters.

Pupils might keep records of how plants have changed over time, for example the leaves falling off trees and buds opening; and compare and contrast what they have found out about different plants.

Learning	Objectives	Learning Objectives	Learning Objectives	Learning Objectives	Learning Objectives
Seasonal changes	Seasonal changes	Seasonal changes—Spring 2		Animals including humans	Seasonal changes
<text><image/><image/><image/><image/><text><text></text></text></text>	Pupils should observe and talk about changes in the weather and the seasons (across the year). <u>Animals including humans</u> Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals Identify and name a variety of common animals that are carnivores, herbivores and omnivores <u>herbivores and omnivores</u> <u>representation of the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</u> Pupils should use the local environment throughout the year to explore and animals in their habitat. They should understand how to take care of animals taken from their blocal environment and the need to return them safely after of study. Pupils should become familiar with the common names of study. Pupils should become familiar with the common names of study. Pupils should become familiar with the common names of study. Pupils might work scientifically by: using their observations to compare different textures sound and mammals, including the specification and photographs, describing how they identify and group them; grouping animals according to what they eat; and using their senses to commons different textures sounds and smells	Pupils should observe and talk about changes in the weather and the set <u>Everyday materials—across Spring term</u> Suggested Scientist: Charles Mackintosh Compare and group together a variety of everyday materials on the opportunity, comparing materials - What is the best material to not foil, carboard (children need to feel the materials and discuss- their transparent, opaque). Image: Compare and group together a variety of everyday materials on the opportunity, comparing materials - What is the best material to materials of discuss- their transparent, opaque). Image: Compare and group together a variety of everyday materials and discuss- their transparent, opaque). Image: Compare and group together a variety of everyday materials and discuss- their transparent, opaque). Image: Compare and group together a variety of everyday materials including wood. Image: Compare and group together a variety of everyday materials, including wood. Image: Compare and the material from which it is material. Image: Compare and biget: and name a variety of transparent. Image: Compare and the material from which it is material. Image: Compare and the material from which it is material. Image: Compare and the material from which it is material. Image: Compare and the material from which it is material. Image: Compare and the material from which it is material. Image: Compare and the material from which it is material. Image: Compare and the material from which it is material. Image: Compare and the material from which it is material. Image: Compare and the image: Compare and the classroom/school and	sons (across the year). basis of their simple physical proper for an unbrella out of? fabric, paper properties e.g. soft, smooth, rough, str	Identify, name, draw and label the basic parts of the human body and say which part is associated with each sense – head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth—through games, actions, songs and rhymes Pupils might work scientifically by: using their observations to compare and contrast animals at first hand or through videos and photographs, describing how they identify and group them; grouping animals according to what they eat; and using their senses to compare different textures, sounds and smells.	<text><text><image/><image/></text></text>

Outcomes & Assessment

Outcomes & Assessment

Outcomes & Assessment

seasons and observe and describe weather associated with the seasons, including the variation in length of days. Complete Flashback to assess national curriculum targets for seasonal changes.

Children to classify and talk confidently about the structure of a Children to investigate the best material for an umbrella and talk confidently about their results, using topic specific vocabulary. Children should be able to talk confidently about body parts, range of animals, using topic specific vocabulary. Complete Flash-back to assess national curriculum targets for Animals (not humans as this is covered in Summer 1)

locate them and relate them to senses. Complete science flash-back to assess national curriculum targets for body parts (Animals including humans).

Outcomes & Assessment

Children should be able to talk confidently about the four



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••	cu	-u	u y

Outcomes & Assessment

Children should know a variety of trees and plants around Aqueduct's site. They should also be able to label the basic structure of these. Complete Science flashback—covering all national curriculum targets for plants.

Assessment for entire year, covering all units taught,

	SCI	ENCE		
	Cycle 2	Long Term Coverag	le	
	Building tomorrow	r, leading the way		
Autumn 1 & 2—Living things and their habitats	Spring 1 & 2—Use:	s of everyday materials	Summer 1—Anima	ls including humans
POSITIVITY SAFETY	RESPECT	LEARNING	HAPP	INESS
Harvest Remembrance/Christmas		British Science Week WB 13.03.2023		
Vocabulary	Vocabulary	Vocabulary	Voca	bulary
living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, water, air, survive, survival, names of local habitats (e.g. pond, woodland etc.), names of micro- habitats (e.g. under logs, in bushes etc.), conditions, light, dark, shady, sunny, wet, damp, dry, hot, cold, names of living things in the habitats and micro-habitats studied	opaque, transparent, translucent rigid, shape, push/pushing, pull/p squashing, bend/bending, stretcl	, reflective, non-reflective, flexible, ulling, twist/twisting, squash/ ı/stretching	offspring, reproduction, gr teenager, adult, old person their babies (e.g. chick/ch lar/butterfly), survive, sur ercise, heartbeat, breathii food types (e.g. meat, fish pasta, dairy)	owth, baby, toddler, child, , names of animals and icken, kitten/cat, caterpil- vival, water, food, air, ex- ng, hygiene, germs, disease, , vegetables, bread, rice,
Working Scientifically Objectives	Working Scien	tifically Objectives	Working Scienti	fically Objectives
Identifying and classifying	Identifying and classifying		Asking simple questions	
Observing closely using simple equipment—magnifying glasses	Observing closely		Using their observations a	nd ideas to suggest answers
Using their observations and ideas to suggest answers to questions	Recoding observations		To questions	
Learning Objectives	Learnin	g Objectives	Learning	Objectives
	<u>Plant</u>	s—across the year		

Observe and describe how seeds and bulbs grow into mature plants. Using school planters.

Pupils should use the local environment throughout the year to observe how plants grow. Pupils should be introduced to the requirements of plants for germination, growth and survival, as well as the processes of reproduction and growth in plants (across the year).

Go on a local walk and observe plant life, taking photographs. The children will then be able to revisit these location to observe how they have changed across the year.

Living things and their habitats Explore and compare the differences between things that are living, dead, and things that have never been alive

Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other - groups of children could research and create a habitat each.



Familiar-woodland

Unfamiliar-ocean, arctic, rainforest, desert

Identify and name a variety of plants and animals in their habitats, including micro-habitats – hunt around the school field to find microhabitats. Use magnifying glasses.

They should raise and answer questions about the local environment that help them to identify and study a variety of plants and animals within their habitat and observe how living things depend on each other, for example, plants serving as a source of food and shelter for animals. Pupils should compare animals in familiar habitats with animals found in less familiar habitats, for example, on the seashore, in woodland, in the ocean, in the rainforest.

Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food e.g. grass, human, cow



Outcomes & Assessment

Children to plant and observe how they grow.

British Science Week WB 13,03,2023

Use of Everyday Materials

Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses

Think about unusual and creative uses for everyday materials. Think about properties of materials that make them suitable and unsuitable for particular purposes— compare the suitability of everyday materials.

Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching—investigation Can you change the shape of all materials? Feely bags include: elastic band, shell, wool, feather, stone, plastic, sponge, playdough

Suggested Scientist: John Boyd Dunlop

Learn about people who have developed new materials.

Learn about the process the recycling and how this co shape





Animals including humans

Notice that animals, including humans, have offspring which grow into adults - investigation. How animals, including humans, change over time?

Link to life cycle of animals e.g. egg, chick chicken, caterpillar, pupa, butterfly, spawn, tadpole, frog, lamb to sheep.

Find out about and describe the basic needs of animals, including humans, for survival (water, food Children to put together all their observations of and air)

Describe the importance for humans of exercise. eating the right amounts of different types of food and



Outcomes & Assessment

Outcomes & Assessment

Science flashback—covering all national curriculum targets for living things and their habitats

No investigation however there is a line of enquiry and observation skills are used.

Science flashback—covering all national curriculum targets for uses of everyday materials.

Science flashback—covering all national curriculum targets for animals including humans



Summer 2—Plants

KINDNESS

Vocabulary

light, shade, Sun, warm, cool, water, space, grow, healthy, bulb, germinate, shoot, seedling

Working Scientifically Objectives

Observing closely using simple equipment

Asking simple questions and recognising that they can answered in different ways

Learning Objectives

<u>Plants</u>

- Observe and describe how seeds and bulbs grow into mature plants
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy- investigation. Plant some cress seeds and some bulbs. Overtime care for the plants and observe them grow. Do plants need light to grow?
- plants across the school year to create their plant life cycles.



Outcomes & Assessment

¥3&4	Сус	SCIENCE cle 2 Long T	erm Coverage	
	Bui	lding tomorrow, leading	the way	
Autumn 1—Light	Autumn 2-Rocks	Spring 1 & 2—Living th	ings and their habitats	Summ
POSITIVITY	SAFETY	RESPECT	LEARNING	HAPPINESS
Harvest	Remembrance/ Christmas		British Science Week WB 13.03.2023	
Vocabulary	Vocabulary	Vocabulary	Vocabulary	Vocabulary
light, light source, dark, absence of light, sur- face, shadow, reflect, mirror, Sun, sunlight, dangerous	rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorbs water, fossil, bone, flesh, minerals, marble, chalk, granite, sandstone, slate, types of soil (e.g. peaty, sandy, chalky, clay)	classification, classification keys, envi positive, negative, migrate, hibernate	ironment, habitat, human impact,	solid, liquid, gas, heating, cooling, state c evaporation, condensation, temperature,
Working Scientifically Objectives	Working Scientifically Objectives	Working Scientif	ically Objectives	Work
Use straightforward scientific evidence to answer questions or to support their findings	Identifying differences, similarities or changes related to simple scientific ideas and processes	Gathering , recording, classifying and to help in answering questions	presenting data in a variety of ways	Making systematic and careful observations standard units, using a range of equipment
Setting up simple practical enquires, comparative and fair tests				Using results to draw simple conclusions, raise further questions
Learning Objectives	Learning Objectives	Learning (Objectives	
		<u>Plants— across</u>	the year	
	Explore the requirement	ents of plants and how this varies from	plant to plant. Children to use school	planters for this.

Plant at the beginning of the year to observe how they grow and what they need to survive.

Use the local environment throughout the year to raise and answer questions that help them to identify and study parts and animals in their habitat-using school field, millennium garden and Dawley hamlets. Identify how the environment changes throughout the year.

Year 3 NC: Recognise that they need light in order to see things and that dark is the absence of light

Year 3 NC: Notice that light is reflected from surfaces

Year 3: Recognise that light from the sun can be dangerous and that there are ways to protect their eves

Year 3 NC: Recognise that shadows are formed when the light from a light source is blocked by an opaque object



Year 3: Find patterns in the way that the size of the shadows change - Investigation opportunity, testing the change in shadows

Type of enquiry: investigating a new idea

https://www.stem.org.uk/resources/elibrary/ resource/30653/making-shadows -shadow puppets

Year 3 NC: Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties

Pupils might work scientifically by: observing rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time; using a hand lens or microscope to help them to identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them.

Year 3 NC: Recognise that soils are made from rocks and organic matter.

- Linked with work in geography, pupils should explore different kinds of rocks and soils, including those in the local environment.
- Pupils could explore different soils and identify similarities and differences between them and investigate what happens when rocks are rubbed together or what changes occur when they are in water. They can raise and answer questions about the way soils are formed.

Year 3 NC: Describe in simple terms how fossils are formed when things that have lived are trapped within a rock

Pupils might research and discuss the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed.

British Science Week WB 13.03.2023

Living things and their habitats

Suggested scientist: David Attenborough

States of matter Year 4 NC: Compare and group materials together according to whether aases

I know how a thermometer works and what it is

Year 4 NC: Recognise that living things can be grouped in a variety of ways.- use a Venn diagram to group living things.

Grouping suggestions:

-animals and plants

-animals that lay eggs, can fly, have 2 legs



-animals that live in the ocean and animals that live on land (to link back to ocean)

Year 4 NC: Explore and use classification keys to help group, identify and name a variety of different things in their local and wider environment. - Investigation, what lives in our local environment and what doesn't. Use the school field for a hunt or even a walk around the local area and woodlands

Type of enquiry: identify and classifying things

Year 4 NC: Recognise that environments can change and that this can sometimes pose dangers to living things. - link to predators not being able to survive if their environment changes

ure or research the temperature at which this happens in degrees Celsius

- changes to water when it is heated or cooled.

They could research the temperature at which materials change state, for example, when iron melts or when oxygen condenses into a liquid. They might observe and record evaporation over a period of time, for example, a puddle in the playground or washing on a line, and investigate the effect of temperature on washing drying or snowmen melting. - Investigation, observe and record evaporation over a period of time.

Year 4 NC: Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.



Outcomes & Assessment

Science flashback—covering all national curriculum targets for light

Outcomes & Assessment

Science flashback—covering all national curriculum tar-

gets for rocks

Outcomes & Assessment

Science flashback—covering all national curriculum targets for living things Science flashback—covering all national curriculum targets for states of matter and plants (which has and their habitats been observed across the year).



ner 1 & 2- States of matter

KINDNESS

Vocabulary

hange, melting, freezing, melting point, boiling, boiling point water cycle

king Scientifically Objectives

ons and, where appropriate, taking accurate measurements using ent, including thermometers and data loggers

make predictions for new values, suggest improvements and

Learning Objectives



Year 4 NC : Observe that some materials change state when they are heated or cooled and meas-

Pupils should explore a variety of everyday materials and develop simple descriptions of the states of matter (solids hold their shape; liquids form a pool not a pile; gases escape from an unsealed container). Pupils should observe water as a solid, a liquid and a gas and should note the

Pupils might work scientifically by: grouping and classifying a variety of different materials; exploring the effect of temperature on substances such as chocolate, butter, cream (for example, to make food such as chocolate crispy cakes and ice-cream for a party).

Type of enquiry: observing changes over time. Researching using secondary sources.

Outcomes & Assessment

(9546)		5	CLENCE		
		Cycle 2	Long	Term Coverage	
	J.C.	Building tomor		rg the way	
Autumn 1 & 2—Propert	ies and changes in materials	Spring 1—Animals includ	ing humans	Spring 2—Light	Summer 1—Forces
POSITIVITY	SAFETY	RESPECT	-	LEARNING	HAPPINESS
Harvest	Remembrance/ Christmas			British Science Week WB 13.03.2023	
Vo	cabulary	Vocabulary		Vocabulary	Vocabulary
thermal insulator/conductor, change of state, mixtur versible/non-reversible change, burning, rusting, new	e, dissolve, solution, soluble, insoluble, filter, sieve, re- material	heart, pulse, rate, pumps, blood, blo ported, lungs, oxygen, carbon dioxid ry system, diet, drugs, lifestyle	od vessels, trans- e, cycle, circulato-	travel, reflect, reflection, light source, shadow, opaque, translucent, transparent, light rays, straight lines	force, gravity, Earth, air resistance, wa friction, mechanisms, simple machines, l gears
Working Scien	tifically Objectives	Working Scientifically (Dbjectives	Working Scientifically Objectives	Working Scientifically Obj
Performing simple tests Using their observations an ideas to suggest a	answers to questions	Reporting and presenting findin ies in oral and written forms. Planning different types of enq	gs from enquir- uiries to answer	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	Taking measurements, using a rang tific equipment, with increasing acc precision.
		questions. Recording data and results of in plexity. Reporting and presenting findin	acreasing com- as from enquir-	Taking measurements with increasing accuracy and precision.	Using test results to make predict Reporting or presenting findings fr
		ies.	<u>.</u>	Recording data and results using line graphs.	
Learnin	g Objectives	Learning Objectiv	ies	Learning Objectives	Learning Objectives
Year 5 NC: Compare and group together everyday their hardness, solubility, transparency, conductivi	materials on the basis of their properties, including ity (electrical and thermal) and response to magnets	Year 5 NC: Describe the changes to old age.	as humans develop	British Science Week WB 13.03.2023	Suggested scientist: Isaac Newton, Mae C Jemison
I know the purpose of a thermometer and how to	use it to measure temperature.	Pupils should draw a timeline to indi	ate stages in the	Year 6 NC: recognise that light appears to travel in straight lines	
 Feely bag and word cards - touch and describe eac for discussion. Carry out a test with each material - test for flex transparency. Explore conductors and insulators (thermal). What Explore conductivity (electrical) Suggested objects to use: 	h material in the feely bag. Use the word cards as prompts ibility, permeability, magnetism, hardness, conductivity and Follow these instructions to test the properties of different materials. Magnetism test Toda a magnet is a magnet. The second to the the instructions to test the properties of different materials. Magnetism test Toda a magnet is a magnet. The second to the the second of each marriel is a second to the the second of each marriel is a second to the the second of each marriel is a second to the the second of each marriel is a second to the the second of each marriel is a second to the the second of each marriel is a second to the the second of each marriel is a second to the the second of each marriel is the second of the second to the the second of the second of the second to the second of the second	growth and development of humans. about the changes experienced in pu- carried out in RSE). Pupils could wor researching the gestation periods or comparing them with humans; by fin cording the length and mass of a bal Year 6 NC: Identify and name the the human circulatory system, and functions of the heart, blood vess	They should learn berty (this will be k scientifically by other animals and ding out and re- by as it grows main parts of describe the els and blood	Year 6 NC: use the idea that light travels in straight lines to explain that objects are seen be- cause they give out or reflect light into the eye Video—model how light travels using wool/ribbon & mirrors <u>STEM</u> Where would be best to place a rear view mirror on a	
 magnets small metal nails 	Transparency test. Flexibility test. Hold each material in front of your eyes. If you can Flexibility means how much a material will bend without completing set brought, it is transparent. If you can set brought frough it is to transform. If you can's set brough frough it is to transform Cross or to it to how watherk each are all it is none. Cross or it to how watherk each	Pupils should build on their learning about the main body parts and inter (skeletal, muscular and digestive sys	from years 3 and 4 nal organs tem) to explore	car* Label the main parts of the human eye and explain their functions.	Year 5 NC: Explain that unsupported towards the Earth because of the for acting, between the Earth and the fa
• goggles	table. Number the materials from 1 to 5, with 1 being the table. Number the materials from 1 to 5, with 1 being the least table. Number the materials from 1 to 5, with 1 being the most flexible material and easiest to beind. Permeability test.	and answer questions that help then how the circulatory system enables tion	to understand the body to func-	Year 6 NC: explain that we see things because light travels from light sources to our eyes or from light	I know the purpose of a newton meter
 jars or beakers elastic bands 	ij a materian is permeane, it allows liquias to go trivougn it. Impermeanie materiais ao not allow liquias trivougn, so they are waterproof. Place each material over a jar that is in an empty tray, using an elastic band to hold it in place if necessary. Pour 20ml	<u>Topic box GP room:</u> Heart models, p	Imping heart model	sources to objects and then to our eyes	Year 5 NC: identify the effects of a
 empty trays 	(d) water onto the material. If the material is permeable, some or all of the water will go through it into the jor. If it is impermeable, the water will stay on the material or run off it into the tray. Cross or tick to show whether each material is permeable.	and child size cut outs of the human GP room)	body (in corner of	Explain how we see light sources and non-light sources. Light spectrum & colours. Use a prism and a light	water resistance and friction, that ac moving surfaces - investigation opport generations avecanters water resist
 measuring jugs water Year 5 NC: know that some materials will dissolve 	in liquid to form a solution, and describe how to recov-	Children to dissect a heart and iden parts. They should be able to talk co each part and its role.	tify the different infidently about	source to create rainbow effect etc. They could ex- tend their experience of light by looking a range of phenomena including rainbows, colours on soap bubbles,	of parachutes to determine the most ef Type of enquiry: comparative and fair
er a substance from a solution -Investigation opport Type of Enguiry: Identifying and classifying things	rtunity. Do all solids dissolve?	Investigate heart rate.	of diat exencise	objects looking bent in water and coloured filters (they do not need to explain why these phenomena occur)	Year 5 NC: recognise that some mech cluding levers, pulleys and gears, allow
	Separating sulf sould for • Status areas	drugs and lifestyle on the way the tion. Pupils should learn how to keep their	bodies healthy	Year 6 NC: use the ideas that light travels in straight lines to explain why shadows have the same shape as the object that cast them	force to have a greater effect To identify forces acting on objects. Th experience forces that make things beg faster or slow down.
fuur salt rice		some drugs and other substances ca the human body.	gea – including now n be harmful to	Investigation opportunity: Children learn that shad- ows are formed when light is blocked by an opaque object, creating a pattern of light on a surface. Chil- draw investigate what harmona to it is chedraw when an	To explore the effect gravity has on ob gravity was discovered.
Year 5 NC: use knowledge of solids, liquids and ga	ses to decide how mixtures might be separated, includ-	Pupils might work scientifically by: e of scientists and scientific research tionship between diet, exercise, dru health. Type of enquiry: Researchi sources.	xploring the work about the rela- gs, lifestyle and ng using secondary	object is moved towards a light source. They predict and then measure the width of an object's shadow at different distances from the light source. Children record their information in a table and use it to create	To investigate the effects of air resist should explore the effects of air resist serving how different objects such as p sycamore seeds fall.
Ing through tiltering, sleving and evaporating - inve	estigation opportunity. Can you separate a mixture?	Year 6 NC: Describe the ways in	which nutrients	a line graph. They attempt to explain the relationship between distance and shadow width.	To explore the effects of water resisto
Type of Engliny: Identifying and classifying this	a changes of state are reversible changes	and water are transported within humans	animals, including	Type of enquiry: Comparative and fair testing	To investigate the effects of friction. F explore the effects of friction on move
Year 5 NC: give reasons, based on evidence from	comparative and fair tests. for the particular uses of	Topic box GP room: human body mod	els. Books on hu-	<u>https://explorify.wellcome.ac.uk/en/activities</u>	out how it slows or stops moving objects by observing the effects of a brake on
everyday martials, including metals, wood and plas	tic	man body and diet, scalpels and glov	25.		To explore and design mechanisms.
Year 5 NC: explain that some changes result in th change is not usually reversible, including changes bonate of soda	e formation of new materials, and that this kind of associated with burning and the action of acid on bicar-				

Outcomes & Assessment

Science flashback—covering all national curricu- Science flashback als

Outcomes & Assessment

lum targets for animals including humans.

Outcomes & Assessment

lum targets for light

Outcomes & Assessment

lum targets for forces



Summer 2—Electricity **KINDNESS**

ces

Vocabulary

water resistance, circuit diagram, circuit symbol, voltage es, levers, pulleys,

Objectives
ange of scien-

dictions

s from enquiries.

Working Scientifically Objectives

Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.

Using test results to make predictions to set up further comparative and fair tests.

Learning Objectives

on, Galileo Galilei. Suggested scientist: Thomas Edison



ted objects fall force of gravity falling object

neter and can use t objects.

of air resistance, t act between portunity, pape sistance. Variety st effective.

fair testing

nechanisms, inallow a smaller

They should begin to move, get

n objects and how

sistance. They esistance by ob-as parachutes and

sistance.

on. Pupils should novement and find jects, for example, on a bicycle wheel. Year 6 NC: associate the brightness of a lamp or volume of a buzzer with the number and voltage of cells used in the circuit - investigation opportunity, creating an testing circuits

Year 6 NC: compare and give reasons for variation in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches

Year 6 NC: use recognised symbols when representation a simple circuit in a diagram.

Building on their work in year 4, pupils should construct simple series circuits, to help them to answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors. They should learn how to represent a simple circuit in a diagram using recognised symbols.

Note: Pupils are expected to learn only about series circuits, not parallel circuits. Púpils should be taught to take the necessary precautions for working safely with electricity.

Pupils might work scientifically by: systematically identifying the effect of changing one component at a time in a circuit; designing and making a set of traffic lights, a burglar alarm or some other useful circuit. (Type of enquiry: making things and developing systems)

To explain the importance of the major discoveries in electricity.

To observe and explain the effect of differing volts in a circuit.

Investigation opportunity: investigate the relationship between wire length and the brightness of bulbs or the loudness of buzzers. Use test results to make predictions and discuss further tests.

Outcomes & Assessment

lum targets for electricity