

			EYFS Icons:		
Ourselves – humans and materials		Supertato – plants, animals and materials	Three little pigs – for	brces and materials	
	1	2	Topics for Y1-6 broken into strands and ico	4	
Biology	Animals, including humans	Animals, including humans Plants Living things and their habitats	Animals, including humans	Animals, including humans	Animal Living t
Chemistry	Everyday materials	Uses of everyday materials	Rocks	States of matter	Propert
Physics	Seasonal changes		Forces and magnets	Electricity Sound	Forces







Working scientifically progression of working scientficially skills: Note:: non-statutory statements

	EYFS (not NC statements)	KS1 (NC statements)	LKS2 (NC statements)	UKS2(NC statements)
Plan $(2,2,2)$	Ask and raise questions. Decide which materials to test. Make predictions.	Ask simple questions and recognising that they can be answered in different ways. Explore the world around them and raise their own questions. Begin to recognise ways in which they might answer scientific questions.	Ask relevant questions and using different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests. Raise their own questions about the world around them. Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions Recognise when a simple fair test is necessary and help to decide how to set it up Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. Help to make decisions about how to record and analyse this data.	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Explore ideas and raise different kinds of questions Select and plan the most appropriate type of scientific enquiry to use to answer scientific questions. Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. Make decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them. Choose the most appropriate equipment to make measurements and explain how to use it accurately. Decide how to record data from a choice of familiar approaches.
	Use senses to find out about the natural world around them. Observe closely and over time. Sort objects into groups. Compare the suitability of different materials for a particular purpose (building a house). Make observations of animals and plants and explain why some things occur and talk about changes. Notice and describe different smells and tastes Observe and describe faces.	observe closely, using simple equipment ¬ perform simple tests. Identify and classify. Use simple measurements and equipment (for example, hand lenses, egg timers) to gather data, carry out simple tests, record simple data. Experience different types of scientific enquiries, including practical activities, Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them With guidance, they should begin to notice patterns and relationships. Observe changes over time. Experience different types of scientific enquiries, including practical activities, Ask people questions and use simple secondary sources to find answers.	make systematic and careful observations and, where appropriate, take accurate measurements using standard units, use a range of equipment, including thermometers and data loggers . Talk about criteria for grouping, sorting and classifying Use simple keys. Learn how to use new equipment, such as data loggers, appropriately.	take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Use and develop keys and other information records to identify, classify and describe living things and materials. Identify patterns that might be found in the natural environment.









1				1
	Record	Notice and describe different smells and tastes Notice and describe how objects feel. Notice and describe different sounds. Notice and describe textures of vegetables. Notice similarities and differences.	Gather and record data to help in answering questions. With help, record their findings in a range of ways .	Gather, record, classify and present data in a variety of ways to help in answering questions Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables . Collect data from their own observations and measurements, using notes, simple tables and standard units.
	<image/>		Use their observations and ideas to suggest answers to questions With help, communicate their findings in a range of ways Talk about what they have found out and how they found it out. Begin to use simple scientific language.	Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions . Identify differences, similarities or changes related to simple scientific ideas and processes. Use straightforward scientific evidence to answer questions or to support their findings. With help, look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, identify new questions arising from the data, making predictions for new values within or beyond the data they have collected. Find ways of improving what they have already done. Recognise when and how secondary sources might help to answer questions. Use relevant scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences.



Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
Use test results to make predictions to set up further comparative and fair tests . Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations . Identify scientific evidence that has been used to support or refute ideas or arguments. Look for different causal relationships in their data and identify evidence that refutes or supports their ideas. Use their results to identify when further tests and observations might be needed. Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact. Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas. Talk about how scientific ideas have developed over time.



EYFS	1	2	3	4	5	6
Understanding the world	Animals, including humans	Animals, including humans Outcome: Create a suggested	Animals, including humans Outcome: Create a skeleton model.	Animals, including humans Outcome: Recreate the digestive	Animals, including humans Outcome: Use this knowledge in	Animals, including humans Outcome: Create a model/ poster
ELG: The Natural World	Outcome: Create a labelled a photo	exercise routine.		system to explain functions.	RSE week to explain changes in	explaining the fucntions of the
Explore the natural world around them,	with basic parts and senses.	Investigate washing hands.	Knowledge:	, ,	body.	heart, blood vessels and blood,
making observations and drawing	·	using glitter gel	identify that animals, including	Knowledge:	,	recognising the impact of extrernal
pictures of animals and plants	Knowledge:		humans, need the right types and	describe the simple functions of the	Knowledge:	features on these parts.
Know some similarities and differences	identify and name a variety of	Knowledge.	amount of nutrition, and that they	basic parts of the digestive system	Describe the changes as humans	'
between the natural world around	common animals including fish	notice that animals including	cannot make their own food: they	in humans	develop to old age.	Knowledge:
them and contrasting environments,	amphibiana rantilas hirds and		get nutrition from what they eat		Additional:	identify and name the main parts of
drawing on their experiences and what	ampribians, reptiles, birds and	numans, have onspring which grow	,	identify the different types of teeth	Explain the changes that take place	the human circulatory system, and
has been read in class	mammals	into adults	identify that humans and some	in humans and their simple	in gilrs and boys during puberty	describe the functions of the heart,
			other animals have skeletons and	functions	Explain how a baby physically	blood vessels and blood
Understand some important processes	identify and name a variety of	find out about and describe the	muscles for support, protection and		changes as it grows, ad also what it	
and changes in the natural world	common animals that are	basic needs of animals, including	movement.	construct and interpret a variety of	is able to do.	recognise the impact of diet.
around them, including the seasons and	carnivores, herbivores and	humans, for survival (water, food		food chains, identifying producers.	Skills:	exercise, drugs and lifestyle on the
changing states of matter.	omnivores	and air)	Skills:	predators and prev	<u></u>	way their bodies function
		,	Ask relevant questions and use	[······	Use relevant scientific language and	
Ourselves - humans and materials	describe and compare the structure	describe the importance for humans	different types of scientific	Skills:	illustrations to discuss.	describe the ways in which
Ourselves - numaris and materials	of a variety of common animals	of exercise, eating the right amounts	enquiries to answer them. Start to	Ask relevant questions and using	communicate and justify their	nutrients and water are transported
Outcome: Draw and label a self	(fish amphibians rentiles birds and	of different types of food, and	make their own decisions about the	different types of scientific	scientific ideas	within animals, including humans,
portrait	(insit, amphibians, reptiles, birds and	hygiene.	most appropriate type of scientific	enquiries to answer them		
Scientific Knowledge: Humans	mammais, including pets)	,,,	enquiry they might use to answer		Vocabulary:	Skills:
Scientine knowledge. Humans	identify name draw and label the	Skills:	questions:	Make systematic and careful	Process of reproduction:	Plan different types of scientific
Name and describe people who are	basis parts of the human body and			observations and, where	gestation, asexual reproduction.	enquiries to answer questions.
familiar to them	basic parts of the hady is	Perform simple tests.	Set up simple practical enquiries.	appropriate, take accurate	sexual reproduction. sperm. egg.	including recognise and controlling
Continue developing positive	say which part of the body is		comparative and fair tests.	measurements using standard units.	cells. clone.	variables where necessary
attitudes about the differences	associated with each sense.	Gather and record data to help in	Recognise when a simple fair test is	using a range of equipment	Changes and life cycle:	,
hetween neonle	Skille	answering questions.	necessary and help to decide how	0 0 11	embryo, foetus, uterus, prenatal,	Record data and results of
Name body parts that we are	Ask simple questions and recognise		to set it up	Use results to draw simple	adolescence, puberty,	increasing complexity using
similar (have same body parts) and	that they can be answered in	Use observations and ideas to		conclusions, make predictions for	menstruation, adulthood,	scientific diagrams and labels,
different (different heights)	different ways	suggest answers to questions	Use results to draw simple	new values, suggest improvements	menopause, life expectancy, old	classification keys, tables, scatter
Humans change as they group up	different ways.		conclusions, make predictions for	and raise further questions.	age, hormones, sweat.	graphs, bar and line graphs
Scientific Knowledge: Materials	Observe closely using simple	Vocabulary:	new values, suggest improvements		• Changing body parts: e.g.	
Use all their senses in hands-on	equinment	• Being born and growing:	and raise further questions.	Vocabulary:	breasts, penis, larynx, ovaries,	Vocabulary:
exploration of materials (Nurserv)	equipment.	Young, offspring, live young, grow,		• Digestive system: digest,	genitalia, pubic hair.	
Different objects can make	Identify and classify	develop, change, hatch, lay, fly,	Vocabulary:	digestion, tongue, teeth, saliva,		Circulatory system:
different sounds	identity and classify.	crawl, talk.	Food groups and nutrients:	salivary glands, oesophagus,	Previously introduced vocabulary:	circulation, heart, pulse, heartbeat,
	Engruijes:	• Young and adult names:	fibre, fats (saturated and	stomach, liver, pancreas, gall	reproduction, reproduce, types of	heart rate, lungs, breathing, blood
Working Scientifically:	<u>Engranes</u> .	e.g. lamb and sheep, kitten and cat,	unsaturated), vitamins, minerals.	bladder, small intestine, duodenum,	animals and animal groups,	vessels, blood, pump, transported,
Observe and describe faces.		duckling and duck.	 Skeletons and muscles: 	large intestine, rectum, anus,	fertilisation.	oxygenated blood, deoxygenated
Notice and describe different smells	Vocabulary:	Life cycle stages: e.g. baby,	skeleton, muscles, tendons, joints,	faeces, organ.		blood, oxygen, arteries, veins,
and tastes	• • Names of animal groups:	toddler, child, teenager, adult;	protection, support, organs,	Types of teeth and dental	Resources:	capillaries, chambers, plasma,
Notice and describe how objects	fish, amphibians, reptiles, birds,	frogspawn, tadpole, froglet, frog.	voluntary muscles, involuntary	care: molar, premolar, incisor,	Access to graphing software on	platelets, white blood cells, red
feel.	mammals.	 Survival and staying 	muscles, biceps, triceps, contract,	canine, wisdom teeth, tooth decay,	devices	blood cells.
Notice and describe different	Animal diets: carnivore.	healthy: basic needs, survive, food,	relax, bone, cartilage, shell,	plaque, enamel, baby (milk) teeth.	Camera	 Lifestyle: drug, alcohol,
sounds.	herbivore, omnivore.	air, exercise, diet, nutrition, healthy,	vertebrate, invertebrate,	 Food chains and animal 		smoking, disease, calorie, energy
Notice similarities and differences.	Human and animal body	balanced diet, hygiene, germs.	endoskeleton, exoskeleton,	diets: decomposer, food web.	Living things and their habitats	input, energy output.
	parts: e.g. body, head. neck. arms.	• Food groups: fruit and	hydrostatic skeleton.		SCIENCE WEEK TOPIC	Other: water
Body parts - head, arms. leg. hand.	elbows, legs, knees, face, ears, eves	vegetables, proteins, dairy and	Names of human bones:	Previously introduced vocabulary:		transportation, nutrient
foot, thigh, elbow, calf, earlobe. etc.	nose, hair, mouth, teeth, hands.	alternatives, carbohydrates, oil and	e.g. skull, spine, backbone, vertebral	producer, consumer, prey,	Outcome: a diary about butterfly	transportation, waste products.
Internal body parts – heart. lungs.	feet, tail, wings, feathers, fur, beak	spreads, fat, salt, sugar.	column, ribcage, pelvis, clavicle,	predator, excretion, habitat.	metemorphosis	
brain, stomach, muscles, etc.	fins, gills.		scapula, humerus, ulna, pelvis,	Resources:		Previously introduced vocabulary:
Senses – smell, taste, see, hear,	 Human senses: sight. 	Previously introduced vocabulary:	radius, femur, tibia, fibula.	Liquids – water, milk, orangejiuce,	Knowledge: Observe growth and	carbon dioxide.
listen, touch, feel sounds - loud,	hearing, touch, smell, taste.	water.	• Other: energy.	apple juice, coke	lifecycle of butterflies	Resources:
listen, touch, feel sounds - loud,	hearing, touch, smell, taste.	water.	• Other: energy.	apple juice, coke	lifecycle of butterflies	<u>Resources:</u>









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quiet, high pitch, low pitch, ear	• Exploring senses: loud,	Resources:		Hard boiled eggs	Describe the differe
baby, toddler, child, teenager, adult,	quiet, soft, rough.	Easy access to sop, water, paper	Previously introduced vocabulary:	Containers	cycles of a mammal
grow,	• Other: human, animal, pet.	towels,	movement	Measuring jugs	an insect and a bird
Change properties of materials -		glitter in small containers,	Resources:	Tights	Describe the life pro
soft, hard, rough, smooth, prickly,	Plants - SCIENCE WEEK TOPIC	stopwatches.	Real food with labels for children to	Biscuits	reproduction in som
spiky, fluffy, smelly, salty, etc.		Access to general art and stationary	examine	Bananas	animals.
height, tall, taller, short, shorter		materials	Measuring tapes/ metre sticks	Sealable bags	
	Outcome: Conduct a bug/plant hunt		Chalk	Tights	Skills:
			Split pins/ elastic bands/	Post it notes	
Supertato – plants, animals and	Knowledge:	Plants SCIENCE WEEK TOPIC	sticky tack/ tape	Examples of equipment such as	Record data and res
materials			balls – variety of shapes	jars, toothpaste, types of drink	increasing complexi
	identify and name a variety of	Outcome: Plant some seeds/bulbs			scientific diagrams a
Outcome: Plant notatoes	common wild and gardon plants	and make observations providing	Plants -SCIENCE WEEK TOPIC	Living things and their habitats	classification keys t
Scientific Knowledge: Plants and		and make observations providing	TIGHTS SCIENCE WEEK TOTIC	SCIENCE WEEK TOPIC	graphs har and line
animals	including deciduous and evergreen	evidence why plants need water.	Outcome: Conduct a plant	SCIENCE WEEK TOPIC	graphs, bar and hite
Diant coods and core for growing	trees		outcome. Conduct a plant	Outcome	should use and deve
Plant seeds and care for growing		Knowledge:	experiement with coloured water.	Outcome:	other information fo
plants. (Nursery)	identify and describe the basic			Knowledge: Take class photos of	identify, classify and
Understand the key features of the	structure of a variety of common		Knowledge:	environment and use classificuation	things and materials
life cycle of a plant and an animal.	flowering plants, including trees.	observe and describe how seeds		keys to group, identify and name	patterns that might
(Nursery)		and bulbs grow into mature plants	identify and describe the functions	living things.	natural environmen
Know that objects and animals are	Skills:		of different parts of flowering		
hard to find if they are		find out and describe how plants	plants: roots, stem/trunk, leaves	recognise that living things can be	Report and present
camouflaged.	Perform simple tests by using	need water, light and a suitable	and flowers	grouped in a variety of ways	enquiries, including
Know what plants need to grow.	simple features to compare objects	temperature to grow and stay			causal relationships
Name a variety of vegetables.	materials and living things and with	healthy	explore the requirements of plants	explore and use classification keys	explanations of and
	help, decide how to sort and group	nearry.	for life and growth (air, light, water,	to help group, identify and name a	in results, in oral an
Scientific Knowledge: Materials	them observe changes over time	Skiller	nutrients from soil, and room to	variety of living things in their local	such as displays and
Talk about the differences between	and bagin to notice (with support)	<u>Skiiis</u> .	grow) and how they vary from plant	and wider environment	presentations. Use
materials and changes they notice.	and begin to notice (with support)		to plant		scientific language a
(Nurserv)	patterns and relationships.			recognise that environments can	to discuss. commun
Describe some materials can		Observe closely, using simple	investigate the way in which water	change and that this can sometimes	their scientific ideas
change texture	Observe closely, using simple	equipment.	is transported within plants	nose dangers to living things	
To know that ice melts when it gets	equipment			pose dangers to inving trings.	Vocabulary
warmar (Passua frazan vogatablas)		Gather and record data to help in	ovalors the part that flowers play in	Skille	Poproduct
warmer (Nescue nozen vegetables:)	Identify and classify	answering questions. Use simple	the life cycle of flowering plants	<u>3Kiiis</u> .	roproduction covus
Marking Colortifically		features to compare objects,	including pallingtion good	Cathen meaned alongify and meaner	reproduction, sexua
		materials and living things and, with	formation and an differenced	Gather, record, classify and present	gestation, metamor
Ask and raise questions.	Vocabulary:	help, decide how to sort and group	formation and seed dispersal.	data in a variety of ways to help in	gameles, luber, run
Make observations of animals and	Names of common plants:	them, observe changes over time,		answering questions: Talk about	branches, plantlet, o
plants and explain why some things	wild plant, garden plant, evergreen	and, with guidance, they should	<u>Skills</u> :	criteria for grouping, sorting and	embryo, adolescent
occur and talk about changes.	tree, deciduous tree, common	begin to notice patterns and		classifying; and use simple keys.	egg, pregnancy, ges
Notice and describe textures of	flowering plant, weed, grass.	relationships.	Set up simple practical enquiries,		
vegetables.	Name some features of		comparative and fair tests .	Use straightforward scientific	Previously introduce
	plants: e.g. flower. vegetable. fruit.	Use observations and ideas to		evidence to answer questions or to	life cycle, pollination
Three little pigs – <mark>forces</mark> and	berry, leaf/leaves, blossom, petal.	suggest answers to questions.	Make systematic and careful	support their findings. Recognise	fertilise, fertilisation
<mark>materials</mark>	stem trunk branch root seed		observations and, where	when and how secondary sources	filament, anther, sta
	bulb soil	Vocabulary:	appropriate, take accurate	might help them to answer	petal, stigma, style,
Outcome: Build a house choosing	Besources:	• Growth of plants:	measurements using standard units,	questions that cannot be answered	ovule, stem, bulb, re
suitable materials	Eully grown flowering plants that	• Growth of plants.	using a range of equipment,	through practical investigations	adult, baby, sperm,
Scientific Knowledge: Materials	are easily removed from their pote	germination, shoot, seed	including thermometers and data		Resources:
Use all senses in hands-on	(about that these are safe for	dispersal, grow, food store, life	loggers.	Report on findings from enquiries,	Large geranium plar
exploration of natural materials.	(check that these are sale for	cycle, die, wilt, seedling, sapling.		including oral and written	Transparent beaker
(Nurserv)	nanuling)	Needs of plants:	Gather, record, classify and present	explanations, displays or	Split pins
Explore collections of materials with	iviagnitying glasses (if required)	sunlight, nutrition, light.	data in a variety of ways to help in	presentations of results and	Coloured paper
similar and/or different properties	Camera	healthy space air	answering questions Regin to look	conclusions	Camer/tablet
(Nurserv)	Sorting hoops	Name different tunes of	for naturally occurring natterns and		Hen's egg per pair
Describe the properties of some	For observing and comparing: a	- Name unterent types of	relationships and decide what data	Vocabulary	Reaker or how!
materials	variety of fruit and vegetables	piant: e.g. bean plant, cactus.	to collect to identify them	Living things: organisms	Deaker OF DOWI
	(including stem, leaf, flower and			- Living unings: Organisms,	
	root vegetables).			specifien, species.	





process of ome plants and

results of exity using hs and labels, s, tables, scatter ine graphs.They evelop keys and n records to and describe living ials, identify ght be found in the hent.

ent findings from ing conclusions, ips and nd degree of trust and written forms and other se relevant ge and illustrations nunicate and justify eas

uction: asexual xual reproduction, norphosis, runners/side et, cuttings, ent, penis, vagina, gestation.

uced vocabulary: tion, offspring, ion, sepal, stamen, pollen, le, ovary, carpel, o, roots, mammal, m, cells, live young.

lant per group kers or jars Scratch 2.0



Scratch 2.0 Coloured card Tissue paper Squared pape

Living things and their habitats SCIENCE WEEK TOPIC

Outcome: Use Linnaeus System to classify animal/ plant

Knowledge:

describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals

give reasons for classifying plants and animals based on specific characteristics.

<u>Skills</u>:

They should use and develop keys and other information records to identify, classify and describe living things and materials, identify patterns that might be found in the natural environment.

Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact.

Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations

Vocabulary:

 Classifying: Carl Linnaeus, Linnaean system, flowering and non-flowering plants, variation.
 Microorganisms: bacteria, single-celled, microbes, microscopic, virus, fungi, fungus, mould, antibiotic, yeast, ferment, microscope, decompose.

Resources:



Talk about the differences between	A variety of live plants.	Names of different	Report on findings from enquiries,	Grouping living things:	Properties and changes of materials
materials and changes they notice.		habitats: e.g. rainforest, desert.	including oral and written	classification, classification keys,	Outcome: Create ice cream
(Nursery)			explanations, displays or	classify, characteristics.	
Some materials are waterproof.	Everyday materials	Previously introduced	presentations of results and	Names of invertebrate	Knowledge:
Some materials are flexible/bendy.	Outcome: To decide which is the	vocabulary: water temperature	conclusions.	animals: snails and slugs, worms,	
	best material to make an umbrella	warm hot cold habitat		spiders, insects.	compare and group together
Scientific Knowledge: Forces	from.	Resources:	Vocabulary:	Invertebrate body parts:	everyday materials on the basis of
Objects can be moved by blowing		Small plant pots	Water transportation:	e.g. wing case, abdomen, thorax,	their properties, including their
on them.	Knowledge:	Soil	transport, evaporation, evaporate,	antenna, segments, mandible,	hardness, solubility, transparency,
The wind can change the	distinguish between an object and	Dwarf sunflower seeds (per child)	nutrients, absorb, anchor.	proboscis, prolegs.	conductivity (electrical and
appearance and position of things.	distinguish between an object and	Paperwhite narcissus bulbs (per	Life cycle of flowering plants: pollipation (insect/wind)	Environmental changes:	thermal), and response to magnets
Working Scientifically:	the material from which it is made	child)	plants. pollination (insect) wind),	dangers adapt natural changes	know that some materials will
Ask and answer questions	identify and name a variety of	Fast germinating test seeds	formation seed dispersal	climate change deforestation	dissolve in liquid to form a solution
Decide which materials to test.	avenuely and hame a vallety of	Torch	(animal/wind/water), reproduce.	pollution, urbanisation, invasive	and describe how to recover a
Make predictions.	everyday materiais, including wood,	Water spray bottle	fertilisation, fertilise, stamen.	species, endangered species.	substance from a solution
Compare the suitability of different	plastic, glass, metal, water, and rock	Shallow plastic trays - 1 per child	anther, filament, carpel (pistil),	extinct.	
materials for a particular purpose	describe the simple physical	Cotton wool or kitchen roll	stigma, style, ovary, ovule, sepal,		use knowledge of solids, liquids and
(building a house).		Cling film	carbon dioxide.	Resources:	gases to decide how mixtures might
	properties of a variety of everyday	Cress seeds		Magnifying glasses	be separated, including through
	materials	A variety of plants that are food,	Previously introduced vocabulary:	Clipboards	filtering, sieving and evaporating
Materials – straw, sticks, bricks,	compare and group together a	vegetables from different parts of	life cycle.	Items for capturing and	
plastic, paper, metal, fabric	variety of everyday materials on the	nlants	Resources:	carrying invertebrates e.g.	give reasons, based on evidence
Properties of materials –	hasis of their simple physical	Cress plants - prepared in lesson	House plants, small plants (tomato,	paint brushes, plastic spoons,	from comparative and fair tests, for
waterproof, strong, stable, rigid,	properties	magnifying glasses	beans or sunflower seedling) in pots	plastic pots with lids	the particular uses of everyday
bendy, flexible wind, breeze, blow,			Measuring cylinders/ beakers	I opic books on endangered species	materials, including metals, wood
force	Skills:	Living things and their habitats	Bright white Howers such as	/ Internet access	and plastic
loice			or gerberos with stems of	States of matter	demonstrate that dissolving mixing
Autumn trees – seasonal changes	Perform simple tests.	Outcome: Create a bug hotel /	equal length	Outcome: create an interactive	and changes of state are reversible
living things and animals		micro habitat	food colouring in a range of	water wheel	changes
	Use observations and ideas to		different colours		
Outcome: Observe a chosen tree	suggest answers to questions.	Knowledge:	pipettes	Knowledge:	explain that some changes result in
throughout the year,			beakers of the same size filled		the formation of new materials, and
Scientific Knowledge: Seasonal	Gather and record data to help in	explore and compare the	with 100ml water	compare and group materials	that this kind of change is not
changes	answering questions.	differences between things that are	thermometers	together, according to whether they	usually reversible, including change
Explore the natural world around) (living, dead, and things that have	A pre-dyed white flower - put	are solids, liquids or gases	associated with burning and the
them.	Vocabulary:	never been alive	it in coloured water the day		action of acid on bicarbonate of
Describe what they see, hear and	 Names of materials, wood, plastic glass metal water rock 		before the lesson	observe that some materials change	soda.
feel whilst outside.	naper cardboard rubber fabric	identify that most living things live	Flowers with visible stamens,	state when they are heated or	
Understand the effect of changing	Properties of materials:	in habitats to which they are suited	stigma and style - tulips and	cooled, and measure or research	<u>Skills</u> :
seasons on the natural world	hard. soft. shiny. dull. stretchy.	and describe how different habitats	lilles are good examples	the temperature at which this	
around them.	rough, smooth, bendy, not bendy,	provide for the basic needs of	Pocks	happens in degrees ceisius (°C)	of scientific equipment, with
Scientific Knowledge: Living things	transparent, opaque, waterproof,	different kinds of animals and	Outcome: Famous paleontogist	identify the part played by	increasing accuracy and precision
and Animals	not waterproof, absorbent, not	plants, and how they depend on	factfile	evanoration and condensation in	take repeat readings when
Begin to understand the need to	absorbent, sharp, stiff.	each other		the water cycle and associate the	appropriate.
respect and care for the natural	• Other: object.		Knowledge:	rate of evaporation with	
environment and all living things.		identify and name a variety of	<u></u>	temperature.	Record data and results of
(Nursery)	Resources:	plants and animals in their habitats,	compare and group together		increasing complexity using
Understand the key features of the	Actual examples of wood, plastic,	including micro-habitats	different kinds of rocks on the basis	Skills:	scientific diagrams and labels,
life cycle of a plant and an animal.	glass, metal and water (as opposed		of their appearance and simple		classification keys, tables, scatter
(Nursery)	no objects made from these	describe how animals obtain their	physical properties	Ask relevant questions and using	graphs, bar and line graphs
	A general selection of materials and	food from plants and other animals,		different types of scientific	
Working Scientifically:	A general selection of materials and	using the idea of a simple food	describe in simple terms how fossils	enquiries to answer them	Use test results to make predictions
Use senses to find out about the	Feely hag rock wood plastic and	chain, and identify and name	are formed when things that have		to set up further comparative and
natural world around them.	metal.	different sources of food.	lived are trapped within rock	Set up simple practical enquiries,	fair tests
Observe closely and overtime.				comparative and fair tests	







changes result in new materials, and nange is not including changes urning and the picarbonate of

2 slices of bread per child (choose bread with less preservatives for quicker results) 2 clear sealable plastic bags per Child Playdough in different colours Petri dish per child Topic books about classification, or access to the Internet

Evolution and Inheritance

Outcome: Present information gained in a creative way – nonchornoligical double page spread, powerpoint, oral performance.

Knowledge:

recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago

recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents

identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Skills:

Recognise which secondary sources will be most useful to research their ideas.

11 Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. They should use and develop keys and other information records to identify, classify and describe living things and materials, identify patterns that might be found in the natural environment.

Identify scientific evidence that has been used to support or refute ideas or arguments.

Vocabulary:



To sort objects into groups.	Shallow containers		recognise that soils are made from		Report and pres
	Per group: A small bear, a plastic	<u>Skills:</u>	rocks and organic matter.	Make systematic and careful	enquiries, includ
Vocab:	pot, an elastic band, a pipette, a pot			observations and, where	causal relationsh
Trees - oak, conifer, beech,	with water in and 4 different (pre-	Ask simple questions and recognise	<u>Skills</u> :	appropriate, take accurate	explanations of a
hawthorn, sycamore,	cut) materials to test.	that they can be answered in		measurements using standard units,	in results, in ora
Natural objects - leaf/leaves, bark,	Sorting Hoops	different ways.	Make systematic and careful	using a range of equipment,	such as displays
trunk, twig, stick, seeds, nuts, acorn,	Camera		observations and, where	including thermometers and data	presentations
pine cone, berries, moss, bracken,		Identify and classify	appropriate, take accurate	loggers.	
stones, soil, mud	Seasonal Changes		measurements using standard units,		Vocabulary :
Senses - touch, smell, sight	Outcome: To keep a weather diary.	Gather and record data to help in	using a range of equipment,	Gather, record, classify and present	Propert
Seasons – autumn, winter, spring,		answering questions. Use simple	including thermometers and data	data in a variety of ways to help in	thermal conduct
summer, changes	Knowledge:	measurements and equipment (for	loggers.	answering questions.	magnetism, elec
		example, hand lenses, egg timers)			transparency.
	observe and describe weather	to gather data.	Gather, record, classify and present	Record findings using simple	Mixture
	associated with the seasons and		data in a variety of ways to help in	scientific language, drawings,	dissolving, subst
	how day length varies.	Use observations and ideas to	answering questions	labelled diagrams, keys, bar charts,	insoluble.
		suggest answers to questions. Talk		and tables	Change
		about what they have found out	identi, make predictions for new		reversible chang
	Skills:	and how they found it out.	values, suggest improvements and	Identify differences, similarities or	irreversible char
	—		raise further questions.	changes related to simple scientific	change, burning
	Gather and record data to help in	Vocabulary:		ideas and processes.	product.
	answering questions.		Identify differences, similarities or		Separat
		• Living or dead: living, dead,	changes related to simple scientific	Vocabulary:	filtering, magnet
	Observe closely, using simple	never living, not living, alive, never	ideas and processes.	States of matter: solids,	
	equipment.	been alive, healthy.		liquids, gases, particles.	Previously introd
		Habitats including	Vocabulary:	State change: evaporate,	electrical condu
	Use observations and ideas to	microhabitats: depend, shelter,	Types of rock: sedimentary	condense, melt, freeze, heat, cool,	translucent.
	suggest answers to questions.	safety, survive, suited, space,	rock, igneous rock, metamorphic	melting point, freezing point, boiling	
		minibeast, air.	rock.	point, water vapour.	Resources:
	Use observations and ideas to	Life processes: movement,	Properties of rocks:	Water cycle: precipitation,	Play sand
	suggest answers to questions and	sensitivity, growth, reproduction,	permeable, semi-permeable,	evaporation, condensation, ground	Raisins
	communicate their findings in a	nutrition, excretion, respiration.	impermeable, durable.	run-off, collection, underground	flour
	range of ways and begin to use	• Food chains: food sources,	Names of rocks: e.g.	water, bodies of water (sea, river,	Rice
	simple scientific language.	food, producer, consumer,	marble, chalk, granite, sandstone,	stream), water droplets, hail.	Table salt
		predator, prey.	slate.	Other: atmosphere.	Warm milk (ther
	Vocabulary:	Names of habitats and	Formation of rocks and		White (distilled)
	Seasons: spring, summer,	microhabitats: e.g. under leaves,	fossils: natural, human-made,	Previously introduced vocabulary:	Bicarbonate of s
	autumn, winter, seasonal change.	woodland, rainforest, sea shore,	magma, lava, molten rock,	temperature, rain, cloud, snow,	Electrical:
	• Weather: e.g. sun, rain,	ocean, urban, local habitat.	sediment, erosion, fossilisation,	wind, sun, hot, cold, absorb, carbon	Batteries, Bulbs,
	snow, sleet, frost, ice, fog, cloud,	Previously introduced vocabulary:	layers, bone, fossil.	dioxide.	Connectors such
	hot/warm, cold, storm, wind,	senses, carnivore, herbivore,	• Soil: sandy, chalky, clay,		Different metals
	thunder, weather forecast.	omnivore, seed, water, names of	peaty, loamy, topsoil, subsoil,	<u>Resources:</u>	- Ideas Include: o
	Measuring weather:	materials.	bedrock, mineral, organic matter,		nail, steel spoon
	temperature, rainfall, wind		compost.	Plastic bottle of lemonade - 1 per	gold jewellery.
	direction, thermometer, rain gauge.	Resources:	• Other: palaeontology.	group	Data loggers wit
	• Day length: night, day,	Large sorting hoops	Previously introduced vocabulary:	3-5 different fizzy drinks	
	daylight.	iviagnitying glasses	soii, water, air.	Uigital weigning scales • Beakers or	10-12 feely bags
				plastic cups	Inermometers
	Resources:	iviake preparations to visit a suitable	Kesources:	Failure time	Stopwatches
	Temperature clock	local habitat, preferably woodland,	A selection of igneous, sedimentary	Foll ple tins	weighing scales
	Cameras	coastal or pond.	and metamorphic rocks	Chocolate broken into equal sized	Goggles
	Thermometer	Natural materials and stationery	Sandpaper	squares	Cardboard
	Magnifying glass		Pipette		Balloons
	Binoculars		A large container or plastic box		Plastic bottles



ent findings from ding conclusions, hips and and degree of trust I and written forms and other

ties of materials: tor/insulator, ctrical resistance,

es and solutions: tance, soluble,

es of materials: ge, physical change, nge, chemical g, new material,

ting: sieving, tic attraction.

duced vocabulary: ctor/insulator, bulb,

rmos) vinegar soda

Wires; as crocodile clips; to test in the circuit copper coin, iron a, silver jewellery,

h light sensors

• Evolution and inheritance: evolve, adaptation, inherit, natural selection, adaptive traits, inherited traits, mutations, theory of evolution, ancestors, biological parent, chromosomes, genes, Charles Darwin.

• Other: selective breeding, artificial selection, breed, cross breeding, genetically modified food, cloning, DNA.

Resources: Non fiction texts

Light:

Ouctome to use a periscope to explain how light travels.

Knowledge:

recognise that light appears to travel in straight lines

use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye

explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes

use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

Skills:

Plan different types of scientific enquiries to answer questions, make predictions, recognise and control variables where necessary.

Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.Make their own decisions about what observations to make, what measurements to



Topic books on the following	If available, example of real fossils	Trays - 3 per group, each tray filled	Paper clips
habitats: ocean, rainforest, desert	or models of fossils:	with a different temperature of	Magnets
and the Arctic.	Clear plastic bottles (round	water	small metal nails
	bottomed two litre bottles are best)	Stopwatches	Elastic bands
Use of everyday materials	Thin pieces of fabric	Container of warm water with cling	Paper cups
Outcome: Create an advert	Cardboard pieces	film stretched over it	Funnels
promoting a material.	Shredded paper	Ice cubes	filter paper
	Fruit and vegetable scraps (cut into	Kettle	Sieve Bowls
Knowledge:	small pieces)	Plate	Jars or beakers, en
	Compost Small stones	Beakers	containers, measu
identify and compare the suitability	5 to 6 tiger worms per group Plastic	Teaspoon	Either: A pan and a
of a variety of everyday materials.	gloves	Salt	boil water in the p
including wood metal plastic glass	Plant saucers	Tea towels - 3 per group	and a safe place to
brick rock paper and cardboard for	Elastic bands	Water Measuring jugs - 1 per group	when filled with w
blick, fock, paper and cardboard for	Samples of the different types of	Weighing scales - 1 set per group	Tablespoons and t
particular uses	soil (pre-measured to ensure the	Three washing lines in places in	
	children use the same amount of	different temperatures	Earth and Space
ting out now the shapes of solid	soil)	Pegs	Outcome: Create a
objects made from some materials	Beakers	Clock	movement of Eart
can be changed by squashing,	Funnels	Clear plastic cups - 1 per pair	
bending, twisting and stretching.	Coffee filter paper	Compost	Knowledge:
	Measuring cylinders	Cress seeds	
	Water	Cling film	describe the move
	Visualiser		Earth, and other p
<u>Skills</u> :			the Sun in the sola
	Topic books: rocks	Sound	
Identify and classify	Light	Outcome: Create a cup telephone.	describe the move
	Outcome: Create a sun dial.		Moon relative to t
Gather and record data to help in		Knowledge:	
answering questions. Use simple	Knowledge:		describe the Sun, E
features to compare objects,		identify how sounds are made,	as approximately s
materials and living things and, with	recognise that they need light in	associating some of them with	
help, decide how to sort and group	order to see things and that dark is	something vibrating	use the idea of the
them, observe changes over time,	the absence of light		to explain day and
and, with guidance, they should		recognise that vibrations from	apparent moveme
begin to notice patterns and	notice that light is reflected from	sounds travel through a medium to	across the sky.
relationships.	surfaces	the ear	
			<u>Skills</u> :
Use observations and ideas to	recognise that light from the sun can	find patterns between the pitch of a	
suggest answers to questions. With	be dangerous and that there are	sound and features of the object	Plan different type
help, record and communicate their	ways to protect their eyes	that produced it	enquiries to answe
findings in a range of ways and		find patterns between the volume	including recognisi
begin to use simple scientific	recognise that shadows are formed	of a sound and the strength of the	controlling variable
language.	when the light from a light source is	vibrations that produced it	necessary. Select a
	blocked by a solid object		appropriate type o
Vocabulary:		recognise that sounds get fainter as	enquiry to use to a
Changing shape: squash,	find patterns in the way that the	the distance from the sound source	questions
bend, twist, stretch.	size of shadows change.	increases.	
Properties of materials:			Plan different type
e.g. strong, flexible, light, hard-	<u>Skills:</u>	<u>Skills</u> :	enquiries to answe
wearing, elastic.			Including recognis
Other: suitability, recycle,	Gather, record, classify and present	Ask relevant questions and using	controlling variable
pollution.	data in a variety of ways to help in	different types of scientific	necessary Recogni
	answering questions. Begin to look	enquiries to answer them.	secondary sources
Resources:	tor naturally occurring patterns and		useful to research
Clipboards per pairs	relationships and decide what data	Set up simple practical enquiries,	begin to separate
Cameras	to collect to identify them.	comparative and fair tests.	







use and how long to make them for, and whether to repeat them; choose the most appropriate equipment to make measurements and explain how to use it accurately.

Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas

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

Vocabulary:

- Reflection: periscope.
- Seeing light: visible spectrum, prism.

• How light travels: light waves, wavelength, straight line, refraction.

Previously introduced vocabulary: names and properties of materials, absorb. Resources: Yellow wool Modelling clay Mirrors Whitepaper Cardboard Small piece of card Torches Protractors Cereal boxes Sticky tape Cups of water Jugs Saucers Seven pieces of paper in the colours of the rainbow String or yarn Coloured sweets such as Smarties or Skittles (if this is not possible, then coloured cubes or counters are ideal alternatives) Different coloured cellophane squares

Sticky tape

mpty trays, uring jugs a heat source to oan or: Containers o leave them vater

easpoons

a model to explain h around the sun.

ement of the lanets, relative to ir system

ement of the he Earth

Earth and Moon spherical bodies

e Earth's rotation night and the ent of the sun

es of scientific er questions, ing and es where and plan the most of scientific answer scientific

es of scientific er questions, sing and les where ise which s will be most their ideas and opinion from fact.



	Objects to be manipulated: play	Set up simple practical enquiries,	Make systematic and careful	Identify scientif
	dough, pipe cleaners, tea towels,	comparative and fair tests.	observations and, where	been used to su
	socks, drink can, elastic bands,	Recognise when a simple fair test is	appropriate, take accurate	ideas or argume
	drinking straws and sponges	necessary and help to decide how	measurements using standard units.	0
		to set it up:	using a range of equipment	Report and pre-
			including thermometers and data	
		Pocord findings using simplo		causal relations
			loggers.	
		scientific language, urawings,	Use months to down since to	explanations of
		labelled diagrams, keys, bar charts,	Use results to draw simple	in results, in ora
		and tables .	conclusions, make predictions for	such as displays
			new values, suggest improvements	presentations.
		Report on findings from enquiries,	and raise further questions.	scientific langua
		including oral and written		to discuss, com
		explanations, displays or	Use straightforward scientific	their scientific i
		presentations of results and	evidence to answer questions or to	
		conclusions.	support their findings.	
				Vocabulary:
		Vocabulary:	Vocabulary:	• Solar s
		 Light and seeing: dark, 	• Parts of the ear: eardrum.	Names
		absence of light, light source,	 Making sound: vibration, 	Mercury, Venus
		illuminate. visible. shadow.	vocal cords, particles.	Jupiter, Saturn.
		translucent, energy, block.	 Measuring sound: pitch. 	Shape
		 Light sources: e.g. candle 	volume amplitude sound wave	snhere
		torch fire lantern lightning	quiet loud high low travel	 Mover
		Beflective light: reflect	distance	orbit satellite
		reflection surface ray scatter	• Other: coundproof absorb	
		reverse beem angle mirror meen	cound	
		Teverse, bearri, angle, minor, moon.	sound.	niouel, nenocel
		• Sun salety: dangerous,		astronomer.
		glare, damage, UV light, UV rating,	Resources:	Day lei
		sunglasses, direct.	Rice	midday, time zo
			Drum per group	
		Previously introduced vocabulary:	Tuning fork per group	Previously intro
		opaque, transparent, sunlight, sun.	Bowl of water per group	Sun, moon, sha
			Data logger with sound sensor	heat, light, refle
		Resources:	per group	Resources:
		5 'feely bags' per class - drawstring	String instruments	Bell/ instrumen
		bags	Pitched percussion instruments	Blank A3 sheets
		Torch per pair	Wind instruments	Colour Pencils
		White card	Straws (approximately5per	recording equip
		Holepunch	child)	camera/tal
		A mirror per child	Alarm clock	Globe
		Metre sticks	Measuring stick	Black card
		Objects to make shadows with	Paper cup per child	Split pins
		Test materials:	Compasses or sewing needles.	Scissors
		5 objects to place inside them -	String -kite string works well	Glue
		some ideas include an orange	(Approximately 20m per pair)	5140
		a shell a nine cone hubble	lunk modelling materials	Forces
		a shen, a pine cone, pubble	Small music player per group	
		wrap, pullice stolle, a dice, all	Smail music player per group	investigate grav
		avocado or collon wool.	box per group, large enough to put	investigate grav
		Range of different materials to test -	the music players in	resistance.
		ideas include cotton, cling film,	Dillerent materials to wrap around	
		net curtains, voile, upholstery	the boxes (ideas include tin foil,	Knowledge:
		fabric, blackout curtain lining,	bubble wrap, tea towels, sheets	
		muslin, tracing paper.	of cotton wool, newspapers)	explain that uns
		6 materials to test such as CDs, tin	sticky tap	fall towards the
		foil, paper, different fabrics,	String	the force of gra
		bubble wrap, cardboard.		the Earth and th



fic evidence that has upport or refute ents.

sent findings from ding conclusions, ships and f and degree of trust al and written forms s and other Use relevant age and illustrations imunicate and justify

ideas

system: star, planet. s of planets: s, Earth, Mars, Neptune, Uranus. : spherical bodies,

ment: rotate, axis,

ies: geocentric ntric model,

ngth: sunrise, sunset, one.

oduced vocabulary: adow, day, night, ect.

nt/ online timer s of paper

oment– blet

reate a parachute to vity and air

supported objects e Earth because of avity acting between he falling object





Straws or craft sticks Tissue paper Tracing paper Screen (a white sheet is ideal) Projector or other light source

Electricity

Outcome: Create a guide for various electrical systems and how to instructions for creating a cicuit,

Knowledge:

associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit

compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches use recognised symbols when representing a simple circuit in a diagram.

<u>Skills</u>:

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

Take measurements, using a range of scientific equipment, with increasing accuracy and precision, take repeat readings when appropriate.

Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs

Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations

Vocabulary: • Flow and measure of electricity: voltage, amps,



		Electricity	identify the effe
	Forces and magnets	Outcome: To create a circuit with	water resistance
	Outcome:	bulbs and switches.	act between mo
	Knowledge:	Knowledge:	recognise that s
	compare how things move on	identify common appliances that	allow a smaller f
	different surfaces	run on electricity	greater effect.
	notice that some forces need	construct a simple series electrical	<u>Skills:</u>
	contact between two objects, but	circuit, identifying and naming its	
	magnetic forces can act at a	basic parts, including cells, wires,	Plan different ty
	distance	bulbs, switches and buzzers	enquiries to ans including recogr
	observe how magnets attract or	identify whether or not a lamp will	variables where
	repel each other and attract some	light in a simple series circuit, based	
	materials and not others	on whether or not the lamp is part	Take measurem
		of a complete loop with a battery	of scientific equ
	variate of everyday materials on the	recognise that a switch energy and	take repeat read
	basis of whother they are attracted	closes a circuit and associate this	appropriato
	to a magnet and identify some	with whether or not a lamp lights in	appropriate.
	magnetic materials	a simple series circuit	Record data and
	describe magnets as having two	recognise some common	scientific diagram
	predict whether two magnets will	associate metals with being good	graphs har and
	attract or repel each other	conductors	graphs, bar and
	depending on which poles are		Report and pres
	facing.	<u>Skills</u> :	enquiries, incluc causal relationsl
	<u>Skills</u> :	Make systematic and careful observations and, where	explanations of in results, in ora
	Set up simple practical enquiries,	appropriate, take accurate	such as displays
	comparative and fair tests	measurements using standard units,	presentations
	Make systematic and careful	using a range of equipment,	
	observations and, where	including thermometers and data	Use test results
	appropriate, take accurate	loggers.	to set up furthe
	measurements using standard units,		fair tests.
	using a range of equipment,	Record findings using simple	
	including thermometers and data	scientific language, drawings,	Vocabulary:
	loggers.	and tables	• Types of
	Gather record classify and present		huovancy unthr
	data in a variety of ways to help in	Report on findings from enquiries.	gravitational pul
	answering questions.	including oral and written	forces, driving fo
		explanations, displays or	 Mecha
	Report on findings from enquiries,	presentations of results and	pulleys, gears/co
	including oral and written	conclusions.	Measu
	explanations, displays or		mass, kilograms
	presentations of results and		scales, speed, fa
	conclusions.	Vocabulary:	• Other:
		• Electricity: mains-powered,	Previously intro
	Vocabulary:	battery-powered, mains electricity,	air, heat, moon.
	How things move: move,	plug, appliances, devices.	<u>Kesources:</u>
	strength	series circuit, complete circuit	Newton meters
		incomplete circuit	Weighing scales
1			1





some mechanisms, s, pulleys and gears, force to have a

ypes of scientific swer questions, nise and controlling e necessary.

nents, using a range uipment, with uracy and precision, idings when

d results of plexity using ams and labels, eys, tables, scatter d line graphs.

sent findings from ding conclusions, ships and f and degree of trust al and written forms s and other

to make predictions er comparative and

of forces: air er resistance, must, Earth's ull, gravity, opposing force. anisms: levers, cogs. urements: weight, s (kg), Newtons (N), fast, slow. : streamlined, Earth. oduced vocabulary: brighter, louder, quieter. • Types of electricity: natural electricity, human-made electricity, solar panels, power station. • Other: positive, negative. Resources: Electrical wires with crocodile clips (and a selection of short and long wires) Bulbs Bulb holders Batteries (a selection with different voltages) Battery holders (single and double Buzzers Motors Switches

إنظنا

Circuits: symbol, circuit

Variations: dimmer,

resistance, electrons, volts (V),

diagram, component, function,

current.

filament.

•

•





	 Types of forces: push, pull, 	Circuit parts: bulb, cell,	Objects to be meas
	contact force, non-contact force,	wire, buzzer, switch, motor, battery.	Clear bags with har
	friction.	Materials: electrical	Plastic sheets, such
	• Magnets: magnetic,	conductor, electrical insulator.	plastic bags
	magnetic field, magnetic force, bar	Other: safety.	Paper
	magnet, horseshoe magnet, ring		Card
	magnet, magnetic poles (north pole,	Previously introduced vocabulary:	String
	south pole), attract, repel, compass.	names of materials.	Sticky tape
	Magnetic and non-	Resources:	Objects to attach to
	magnetic materials: e.g. iron, nickel.	Electrical wires with crocodile clips	e.g. paper clips
	cobalt	Bulbs	modelling clay
	Previously introduced vocabulary:	Bulb Holders	Measuring sticks
	metal names of materials	Batteries (cells)	Stonwatch
	Resources:	Battery (cells)Holders	Modelling clay
	Toy car	Buttery (Cells)Holders	Three identical ma
	F boards covered with different	Motors	
	surfaces (Ideas include	Violois Coloction of quitabox	hei Bionh
	surfaces (ideas include	A man and its man to stand which	Junk modelling mai
	sandpaper, a tower, tinton, lino,	A range of items to test which	Large water tray
	carpet, corrugated cardboard	consist of one material – e.g.	Battery powered na
	or bubble wrap);	cotton, copper	Stopwatch
	Ruler.	Paperclips	I ricycles or scooter
	Steel paperclips	Cardboard	group, it possib
	Bar magnets	Pencils	does not requi
	Iron filings	Bulldog clips	ridden.
	Trays	Masking Tape	Thick card cut into
	Magentic + non-magnetic materials	Timer	sized pieces
	(some ideas include coins, iron		Five different mate
	nails, steel paper clips, pens,		carpet, vinyl flo
	pencils, drinks cans, food tins,		towels, bubble
	wooden spoons or plastic tubs).		
	Cotton thread;		
	Masking tape;		
	Variety of different types of		
	magnets (horseshoe, bar,		
	button, disc, arc, cylinder or		
	square).		
	Flat plastic milk bottle tops		
	Sticky tack		
	Plastic bowls		
	Compass		
	Straws		
	Dowels		
	20.000		







easured
handles
uch as bin bags or
5

ch to the parachutes clips, toy figures or clay

measuring cylinders

materials

ed handheld fan

oters - one per ossible. The lesson equire these to be

nto playing card

naterials to test (e.g. yl flooring, tin foil, bble wrap, plastic)