



Science Overview – EYFS and NC Statements

Green - Biology, Red - Chemistry, Yellow - Physics

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	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals including Humans	Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Help children to care for animals and take part in first-hand scientific explorations of animal life cycles, such as caterpillars or chick eggs. Plan and introduce new vocabulary related to the exploration. Encourage children to use it in their discussions, as they care for living things. Encourage children to refer to books, wall displays and online resources. This will support their investigations and extend their knowledge and ways of thinking.	Explore the natural world around them. Describe what they see, hear and feel whilst outside. After close observation, draw pictures of the natural world, including animals and plants. Name and describe some plants and animals children are likely to see, encouraging children to recognise familiar plants and animals whilst outside. Listen to children describing and commenting on things they have seen whilst outside, including plants and animals	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 Idescribe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Pupils should use the local environment throughout the year to explore and answer questions about animals in their habitat. They should understand how to take care of animals taken from their local environment and the need to return them safely after study. Pupils should become familiar with the common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets. Pupils should have plenty of opportunities to learn the names of the main body parts (including 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	 Notice that animals, including humans have offspring that grow into adults Find out and describe the basic needs of animals, including humans, for survival (water, food, air) Describe the importance for humans of exercise, eating the right amounts of different food and hygiene. Pupils should be introduced to the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans. They should also be introduced to the processes of reproduction and growth in animals. The focus at this stage should be on questions that help pupils to recognise growth; they should not be expected to understand how reproduction occurs. The following examples might be used: egg, chick, chicken; egg, caterpillar, pupa, butterfly; spawn, tadpole, frog; lamb, sheep. Growing into adults can include reference to baby, toddler, child, teenager, adult. Pupils might work scientifically by: observing, through video or first-hand observation and measurement, how different animals, including humans, grow; asking questions about what 	Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food: they get nutrition from what they eat Identify that humans and some other animals have skeletons and muscles for support, protection and movement. Pupils should continue to learn about the importance of nutrition and should be introduced to the main body parts associated with the skeleton and muscles, finding out how different parts of the body have special functions. Pupils might work scientifically by: identifying and grouping animals with and without skeletons and observing and comparing their movement; exploring ideas about what would happen if humans did not have skeletons. They might compare and contrast the diets of different animals (including their pets) and decide ways of grouping them according to what they eat. They might research different food groups and how they keep us healthy and design	Describe the simple functions of the basic parts of the digestive system in humans Identify the different types of teeth in humans and their simple functions Construct and interpret a variety of food chains, identifying producers, predators and prey. Pupils should be introduced to the main body parts associated with the digestive system, for example, mouth, tongue, teeth, oesophagus, stomach and small and large intestine and explore questions that help them to understand their special functions. Pupils might work scientifically by: comparing the teeth of carnivores and herbivores, and suggesting reasons for differences; finding out what damages teeth and how to look after them. They might draw and discuss their ideas about the digestive system and compare them with models or images	Pupils should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced in puberty. Pupils could work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.	 Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function Describe the ways in which nutrients and water are transported within animals including humans Pupils should build on their learning from years 3 and 4 about the main body parts and internal organs (skeletal, muscular and digestive system) to explore and answer questions that help them to understand how the circulatory system enables the body to function. Pupils should learn how to keep their bodies healthy and how their bodies might be damaged – including how some drugs and other substances can be harmful to the human body. Pupils might work scientifically by: exploring the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health

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			observations to compare and	things animals need for	meals based on what		
			contrast animals at first hand	survival and what humans	they find out.		
			or through videos and	need to stay healthy; and			
			photographs, describing how	suggesting ways to find			
			they identify and group them;	answers to their questions			
			grouping animals according to				
			what they eat; and using their				
			senses to compare different				
			textures, sounds and smells.				
Plants	Plant seeds and	Explore the	identify and name a	Observe and describe	Identify and		
i idillə	care for growing	natural world	variety of common wild		describe the		
		around them.	_	how seeds and bulbs	functions of		
	plants.		and garden plants,	grow into mature	different parts of		
	Understand the	Describe what	including deciduous and	plants	flowering plants:		
	key features of	they see, hear	evergreen trees	Find out and describe	roots, stem / trunk,		
	the life cycle of a	and feel	identify and describe the	how plants need	leaves and flowers		
	plant and an	whilst outside	basic structure of a	water, light and a	• Explore the		
	animal.		variety of common	suitable temperature	• Explore the requirements of		
	Begin to	After close	flowering plants,	to grow and stay	plants for life and		
	understand the	observation, draw	including trees	healthy.			
	need to respect	pictures of the natural		D State II .	growth (air, light,		
	and care for the	world, including	Pupils should use the local	Pupils should use the local	water, nutrients		
	natural	animals and plants.	environment throughout the	environment throughout the	from soil and room		
	environment and		year to explore and answer	year to observe how	to grow) and how		
		Listen to children	questions about plants growing	different plants grow.	they vary from		
	all living things.	describing and	in their habitat.		plant to plant		
	Libraria materia al Albrer Libraria	commenting on things	Where possible, they should	Pupils should be introduced			
	Understand the key	they have seen whilst	observe the growth of flowers	to the requirements of	way in which water		
	features of the life	outside, including	and vegetables that they have	plants for germination,	is transported		
	cycle of a plant and an	plants and animals.	planted.	growth and survival, as well	within plants		
	animal.	Name and describe	They should become familiar	as to the processes of	Explore the part		
		some plants and	with common names of	reproduction and growth in	that flowers play in		
	Help children to care	animals children are	flowers, examples of	plants.	the lifecycle of		
	for animals and take	likely to see,	deciduous and evergreen	Note: Seeds and bulbs	flowering plants,		
	part in first-hand	encouraging children	trees, and plant structures	need water to grow but	including		
	scientific explorations	to recognise familiar	(including leaves, flowers	most do not need light;	pollination, seed		
	of animal life cycles,	plants and animals	(blossom), petals, fruit, roots,	seeds and bulbs have a	formation and		
	such as caterpillars or	whilst outside.	bulb, seed, trunk, branches,	store of food inside them.	seed dispersal.		
	chick eggs.		stem).				
			0.011).	Pupils might work	Pupils should be		
	Show and explain the		Pupils might work	scientifically by:	introduced to the		
	concepts of growth,		scientifically by: observing	observing and recording,	relationship between		
	change and decay with		closely, perhaps using	with some accuracy, the	structure and function:		
	natural materials. Plant		magnifying glasses, and	growth of a variety of plants	the idea that every part		
	seeds and bulbs so		comparing and contrasting	as they change over time	has a job to do.		
	children observe		familiar plants; describing how	from a seed or bulb, or			
	growth and decay over		they were able to identify and	observing similar plants at	They should explore		
	time. Observe an apple		group them, and drawing	different stages of growth;	questions that focus on		
	core going brown and		diagrams showing the parts of	setting up a comparative	the role of the roots and		
	mouldy over time		different plants including trees.	test to show that plants	stem in nutrition and		
			Pupils might keep records of	need light and water to stay	support, leaves for		
	Plan and introduce		how plants have changed over	healthy.	nutrition and flowers for		
	new vocabulary related		time, for example the leaves		reproduction.		
	to the exploration.		falling off trees and buds				
			opening; and compare and		Note: Pupils can be		
	Begin to understand		contrast what they have found		introduced to the idea		
	the need to respect		out about different plants.		that plants can make		
	and care for the natural		out about different plants.		their own food, but at		
	environment and all				this stage they do not		
	living things.				need to understand how		
					this happens.		

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	Encourage children to			Pupils might work			
	use it in their			scientifically by:			
	discussions, as they			comparing the effect of			
	care for living things.			different factors on plant			
				growth, for example, the			
	Encourage children to			amount of light, the			
	refer to books, wall			amount of fertiliser;			
	displays and online			discovering how seeds			
	resources. This will			are formed by observing			
	support their			the different stages of			
	investigations and			plant life cycles over a			
	extend their knowledge			period of time;			
	and ways of thinking.			looking for patterns in			
				the structure of fruits			
				that relate to how the			
				seeds are dispersed.			
				They might observe how			
				water is transported in			
				plants, for example, by			
				putting cut, white			
				carnations into coloured			
				water and observing			
				how water travels up the			
				stem to the flowers.			
Living			Explore and compare		Recognise that living	Describe the differences	Describe how living
things and			the differences		things can be grouped	in the lifecycles of a	things are classified
Habitats			between things that		in different ways	mammal, an amphibian,	into broad groups
Tiabitats			are living, dead and		• Explore and use	an insect and a bird	according to common
			things that have		classification keys to	Describe the process of	observable
			never been alive.		help group, identify	reproduction in some	characteristics and
			 Identify that most 		and name a variety of	plants and animals	based on similarities
			living things live in		living things in their	-	and differences,
			habitats to which they		local and wider	Pupils should study and raise	including micro-
			are suited and		environment.	questions about their local	organisms, plants
			describe how		Recognise that	environment throughout the	and animals
			different habitats		environments can	year.	 Give reasons for
			provide for the basic		change and that this		classifying plants and
			needs of different		can sometimes pose	They should observe life-cycle	animals based on
			kinds of animals and		dangers to living	changes in a variety of living	specific
			plants and how they		things.	things, for example, plants in the	characteristics
			depend on each other.		Dunilo obsertatives the least	vegetable garden or flower	
					Pupils should use the local	border, and animals in the local	Pupils should build on their
			 Identify and name a variety of plants and 		environment throughout the year to raise and answer	environment.	learning about grouping
			animals in their		questions that help them to		living things in year 4 by
			habitats, including		identify and study plants and	They should find out about the	looking at the classification
			microhabitats		animals in their habitat.	work of naturalists and animal	system in more detail.
			 Describe how animals 		alimate in their habitat.	behaviourists, for example,	The same hand the state of the
			obtain their food from		They should identify how the	David Attenborough and Jane	They should be introduced
			plants and other		habitat changes throughout	Goodall.	to the idea that broad groupings, such as micro-
			animals, using the		the year.	Pupils should find out about	organisms, plants and
			idea of a simple food		_	different types of reproduction,	animals can be subdivided.
			chain and name		Pupils should explore	including sexual and asexual	aa.c can be subdivided.
			different sources of		possible ways of grouping a	reproduction in plants, and	Through direct
			food.		wide selection of living things	sexual reproduction in animals.	observations where
					that include animals and		possible, they should
			Pupils should be introduced		flowering plants and non-	Pupils might work	classify animals into
			to the idea that all living		flowering plants.	scientifically by: observing and	commonly found
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things have certain characteristics that are essential for keeping them alive and healthy.

They should raise and answer questions that help them to become familiar with the life processes that are common to all living things.

Pupils should be introduced to the terms 'habitat' (a natural environment or home of a variety of plants and animals) and 'microhabitat' (a very small habitat, for example for woodlice under stones, logs or leaf litter).

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.

Pupils might work scientifically by: sorting and classifying things according to whether they are living, dead or were never alive, and recording their findings using charts.

They should describe how they decided where to place things, exploring questions for example: 'Is a flame alive? Is a deciduous tree dead in winter?' and talk about ways of answering their questions.

Pupils could begin to put vertebrate animals into groups such as fish, amphibians, reptiles, birds, and mammals; and invertebrates into snails and slugs, worms, spiders, and insects.

Note: Plants can be grouped into categories such as flowering plants (including grasses) and non-flowering plants, such as ferns and mosses.

Pupils should explore examples of human impact (both positive and negative) on environments, for example, the positive effects of nature reserves, ecologically planned parks, or garden ponds, and the negative effects of population and development, litter or deforestation.

Pupils might work scientifically by: using and making simple guides or keys to explore and identify local plants and animals; making a guide to local living things; raising and answering questions based on their observations of animals and what they have found out about other animals that they have researched.

comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences.

They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs.

They might observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow. invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals).

They should discuss reasons why living things are placed in one group and not another.

Pupils might find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification.

Pupils might work scientifically by: using classification systems and keys to identify some animals and plants in the immediate environment.

They could research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.

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	simple includ grass They condit habita (under under how to the number of the number o	could construct a e food chain that des humans (e.g. s, cow, human). could describe the itions in different ats and micro-habitats er log, on stony path, r bushes) and find out the conditions affect umber and type(s) of s and animals that live .	
Evolution and Inheritance			 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. Building on what they learned about fossils in the topic on rocks in year 3, pupils should find out more about how living things on earth have changed over time. They should be introduced to the idea that characteristics are passed from parents to their offspring, for instance by considering different breeds of dogs, and what happens when, for example, labradors are crossed with poodles. They should also appreciate that variation in
			offspring over time can

			make animal	s more or less
				e in particular
				s, for example,
			by exploring	
			necks got lor	
			development	
			fur on the arc	CTIC IOX.
			Dismile majorka	final acut abacut
				find out about
			the work of	late a slove
			palaeontolog	
			Mary Anning	and about
			how Charles	Darwin and
			Alfred Wallac	
			their ideas or	n evolution.
			Note: At this	stage, pupils
			are not expec	
				now genes and
			chromosome	
			Pupils might	
			scientifically	
			observing an	
			questions ab	
				how they are
			adapted to th	
			environment;	
			how some liv	ing things are
			adapted to su	urvive in
			extreme cond	ditions, for
			example, cac	ctuses.
			penguins and	
			They might a	
			advantages a	
			disadvantage	es of specific
			adaptations,	such as being
				ather than four,
			having a long	
				gills or lungs,
				imbing plants,
			brightly colou	
	Tell of sould a		scented flower	ers.
Every day		etween an identify and compare		
Materials	-	the suitability of a		
	between from whic			
	materials • identify ar	,		
	and changes they variety of			
	notice. materials,			
	Explore how wood, plan			
	things work. metal, wat	· · · · · · · · · · · · · · · · · · ·		
	• describe t			
		perties of a shapes of solid		
	shine light through variety of			
	some materials, but not materials	some materials can		
	others. • compare a			
	Plan and introduce together a	rriety of squashing, bending,		
	new vocabulary related everyday	terials on twisting and		
	to the exploration and			
	to the exploration and	stretching.		

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	encourage children to	the basis of their simple				
	use it	physical properties				
			Pupils should identify and			
		Pupils should explore, name,	discuss the uses of			
		discuss and raise and answer	different everyday materials			
		questions about everyday	so that they become			
		materials so that they become	familiar with how some			
		familiar with the names of	materials are used for more			
		materials and properties such	than one thing (metal can			
		as: hard/soft; stretchy/stiff;	be used for coins, cans,			
		shiny/dull; rough/smooth;	cars and table legs; wood			
		bendy/not bendy;	can be used for matches,			
		waterproof/not waterproof;	floors, and telegraph poles)			
		absorbent/not absorbent;	or different materials are			
		opaque/transparent.	used for the same thing			
		opaque/transparent.	(spoons can be made from			
		Dunile should explore and	plastic, wood, metal, but			
		Pupils should explore and				
		experiment with a wide variety	not normally from glass).			
		of materials, not only those	The second secon			
		listed in the programme of	They should think about the			
		study, but including for	properties of materials that			
		example: brick, paper, fabrics,	make them suitable or			
		elastic, foil.	unsuitable for particular			
			purposes and they should			
		Pupils might work	be encouraged to think			
		scientifically by: performing	about unusual and creative			
		simple tests to explore	uses for everyday			
		questions, for example: 'What	materials.			
		is the best material for an				
		umbrella?for lining a dog	Pupils might find out about			
		basket?for curtains?for a	people who have			
		bookshelf?for a gymnast's	developed useful new			
		leotard?'	materials, for example John			
		lootard:	Dunlop, Charles Macintosh			
			or John McAdam.			
			or John McAdam.			
			Provide orderly comple			
			Pupils might work			
			scientifically by:			
			comparing the uses of			
			everyday materials in and			
			around the school with			
			materials found in other			
			places (at home, the			
			journey to school, on visits,			
			and in stories, rhymes and			
			songs); observing closely,			
			identifying and classifying			
			the uses of different			
			materials, and recording			
			their observations.			
Rocks				Compare and		
NOCKS				group together		
				different kinds of		
				rocks on the basis		
				of their		
				appearance and		
				simple physical		
				properties		
				• Describe in simple		
				terms how fossils		
·						

		are formed when
		things that have
		lived are trapped
		within rock
		Recognise that
		soils are made
		from rocks and
		organic matter.
		Linked with work in
		geography, pupils
		should explore different
		kinds of rocks and soils,
		including those in the
		local environment.
		Pupils might work
		r upils hight 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
		whether they have
		grains or crystals, and
		whether they have
		fossils in them.
		Pupils might research
		and discuss the different
		kind of him things
		kinds of living things
		whose fossils are found
		in sedimentary rock and
		explore how fossils are
		formed.
		Punils could explore
		Pupils could explore
		different soils and
		identify similarities and
		differences between
		them and investigate
		what happens when
		rocks are rubbed
		together or what
		together or what
		changes occur when
		they are in water.
		They can raise and
		answer questions about
		the way soils are
		the way soils are
		formed.
States of	Explore the	Compare and group
	natural world	materials together
Matter		materials together, according to whether
	around them	according to whether

	they are solids, liquids	
Observe and interact	or gases	
with natural processes,	Observe that some	
such as ice melting, a	materials change state	
sound causing a	when they are heated	
vibration, light	or cooled, and measure	
travelling through	or research the	
transparent material,	temperature at which	
transparent material,		
an object casting a	this happens in	
shadow, a magnet	degrees celcius	
attracting an object	Identify the part played	
and a boat floating on	by evaporation and	
water.	condensation in the	
	water cycle and	
	associate the rate of	
	evaporation with	
	temperature.	
	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).	
	unsealed container).	
	Pupils should observe water	
	as a solid, a liquid and a gas	
	and should note the changes	
	to water when it is heated or	
	cooled.	
	000104.	
	Note: Teachers should avoid	
	using materials where	
	heating is associated with	
	chemical change, for	
	example, through baking or	
	burning.	
	Pupils might work	
	scientifically by: grouping	
	and classifying a variety of	
	different metarials; evaluring	
	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).	
	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	
1	 100010 Ovaporation 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.	
Properties			Compare and group
and			together everyday
changes of			materials on the basis of
changes of			their properties, including
materials			their hardness, solubility,
			transparency,
			conductivity (electrical
			and thermal) and
			response to magnets
			Know that some materials
			will dissolve in liquid to
			form a solution, and
			describe how to recover a
			substance from a solution
			Use knowledge of solids,
			liquids and gases to
			decide how mixtures
			might be separated,
			including through
			filtering, sieving and
			evaporating
			give reasons, based on
			evidence from
			comparative and fair tests,
			for the particular uses of
			everyday materials,
			including metals, wood
			and plastic
			demonstrate that
			dissolving, mixing and
			changes of state are
			reversable changes
			explain that some
			changes result in the
			formation of new
			materials, and that this
			kind of change is not
			usually reversable,
			including changes
			including changes
			associated with burning
			and the action of acid on
			bicarbonate of soda.
			Pupils should build a more
			systematic understanding of
			materials by exploring and
			comparing the properties of a
			broad range of materials,
			including relating these to what
			they learnt about magnetism in
			vear 3 and about electricity in
			year 3 and about electricity in
			year 4.

They should explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. Pupils should explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of They should find out about how chemists create new materials, for example, Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton. Note: Pupils are not required to make quantitative measurements about conductivity and insulation at this stage. It is sufficient for them to observe that some conductors will produce a brighter bulb in a circuit than others and that some materials will feel hotter than others when a heat source is placed against them. Safety guidelines should be followed when burning materials. **Pupils might work** scientifically by: carrying out tests to answer questions, for example, 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?' They might compare materials in order to make a switch in a circuit. They could observe and compare the changes that take place, for example, when burning different materials or baking bread or cakes. They might research and discuss how chemical changes have an impact on our lives, for example, cooking, and discuss

magnets about different forces they can feel. Explore how things work. Provide children with opportunities to change materials from one state to another. Suggestions: cooking – combining different ingredients, and then around around around with natural such as ice sound caus vibration, litravelling the transparen an object of shadow, a attracting around	, light through ent material, t casting a a magnet	Compare how things move on different surfaces Notice that some forces need contact between two objects, but magnetic forces can act at a distance Observe how magnets either attract or repel each other and attract some materials and not others Compare and group together a variety of everyday	the creative use of new materials such as polymers, super-sticky and super-thin materials. • Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • Identify the effects of air resistance, water resistance and friction that act between moving surfaces • Recognise that some mechanisms, including levers, pulleys and gears allow a smaller force to have a greater effect. Pupils should explore falling objects and raise questions
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Plan and introduce new vocabulary related		identify some	how different objects such as
new vocabulary related		magnetic materials	parachutes and sycamore seeds
		Predict whether	fall.
		two magnets will	
encourage children to		attract or repel	They should experience forces
use it		each other,	that make things begin to move,
Draw children's		depending on	get faster or slow down.
attention to forces.		which poles are	
Suggestions:		facing.	Pupils should explore the effects
how the water pushes		Dunile about debance	of friction on movement and find
up when they try to		Pupils should observe	out how it slows or stops moving
push a plastic boat		that magnetic forces can	objects, for example, by
under it		act without direct	observing the effects of a brake
how they can stretch		contact, unlike most	on a bicycle wheel.
elastic, snap a twig, but		forces, where direct	
cannot bend a metal		contact is necessary (for	Pupils should explore the effects
rod		example, opening a	of levers, pulleys and simple
Magnetic attraction and		door, pushing a swing).	machines on movement.
repulsion		They should explore the	
Plan and introduce		They should explore the	Pupils might find out how
new vocabulary related		behaviour and everyday uses of different	scientists, for example, Galileo
to the exploration and			Galilei and Isaac Newton helped
encourage children to		magnets (for example,	to develop the theory of
use it.		bar, ring, button and	gravitation.
Provide mechanical		horseshoe).	
equipment for children		Punilo might work	Pupils might work
		Pupils might work	scientifically by: exploring
to play with and		scientifically by:	falling paper cones or cup-cake
investigate.		comparing how different	cases, and designing and
Suggestions: wind-up		things move and	making a variety of parachutes
toys, pulleys, sets of		grouping them; raising	and carrying out fair tests to
		questions and carrying	determine which designs are the

Electricity Electricity Electricity Electricity In a faming a nove on different surface and manage of celestations or value by manage of celestations of celestations of celestations of the construction of the celestation of the celestati				 			
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everyday items and suggesting creative uses for different magnets. Identify common appliances that run on electricity				magnets useful in			
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neina anna conductors I tor overno courtebos							
					being good conductors		for example, switches,
bulbs, buzzers and motors					Dunile chould sensitive		bulbs, buzzers and motors.
Pupils should construct							T I
simple series circuits, trying they should learn how to							
different components, for represent a simple circuit in					airrerent components, for		represent a simple circuit in

		example, bulbs, buzzers and	a diagram using recognised
		motors, and including	symbols.
		switches, and use their	3,
		circuits to create simple	Note: Pupils are expected
		devices.	to learn only about series
		devices.	circuits, not parallel circuits.
		Dupile should draw the circuit	circuits, flot parallel circuits.
		Pupils should draw the circuit	D. Taraka III. da aktir
		as a pictorial representation,	Pupils should be taught to
		not necessarily using	take the necessary
		conventional circuit symbols	precautions for working
		at this stage; these will be	safely with electricity.
		introduced in year 6.	
			Pupils might work
		Note: Pupils might use the	scientifically by:
		terms current and voltage,	systematically identifying
		but these should not be	the effect of changing one
		introduced or defined	component at a time in a
		formally at this stage. Pupils	circuit; designing and
		should be taught about	
		precautions for working	making a set of traffic
			lights, a burglar alarm or
		safely with electricity.	some other useful circuit.
		Pupils might work	
		scientifically by: observing	
		patterns, for example, that	
		bulbs get brighter if more	
		cells are added, that metals	
		tend to be conductors of	
		electricity, and that some	
		materials can and some	
		cannot be used to connect	
		across a gap in a circuit.	
Sound	a Francisco dos	Identify how sounds	
Sound	Explore the		
	natural world	are made, associating	
	around them	some of them with	
		something vibrating.	
	Observe and interact	Recognise that	
	with natural processes,	vibrations from sounds	
	such as ice melting, a	travel through a	
	sound causing a	medium to the ear	
	vibration, light	Find patterns between	
	travelling through	pitch of a sound and	
		features of the object	
	transparent material,		
	an object casting a	that produced it	
	an object casting a shadow, a magnet	that produced it Recognise that sounds	
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	an object casting a shadow, a magnet attracting an object and a boat floating on	 that produced it Recognise that sounds get fainter as the distance from the 	
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	They should look for, and measure, shadows, and find out how they are formed and what might cause the shadows to change. Note: Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses. Pupils might work scientifically by: looking for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes.	and making a periscope and using the idea that light appears to travel in straight lines to explain how it works. They might investigate the relationship between light sources, objects and shadows by using shadow puppets. They could extend their experience of light by looking a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water and coloured filters (they do not need to explain why these phenomena occur).
Earth and Space		Describe the movement of the Earth and other planets relative to the Sun in the solar system; Describe the movement of the Moon relative to the Earth; Describe the Sun, Earth and Moon as approximately spherical bodies; Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. Pupils should be introduced to a model of the Sun and Earth that enables them to explain day and night. Pupils should learn that the Sun is a star at the centre of our solar system and that it has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006). They should understand that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).

					Note: Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses Pupils should find out about the way that ideas about the solar system have developed, understanding how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen and Copernicus. Pupils might work scientifically by: comparing the time of day at different places on the Earth through internet links and direct communication; creating simple models of the solar system; constructing simple shadow clocks and sundials, calibrated to show midday and the start and end of the school day; finding out why some people think that structures such as Stonehenge might have been used as	
Seasonal Change	un dra att we fea Profor reconstruction with the construction with	effect of changing seasons on the natural world around them. uide children's nderstanding by awing children's tention to the eather and seasonal atures. rovide opportunities r children to note and cord the weather.	observe changes across the four seasons observe and describe weather associated with the seasons and how day length varies. Pupils should observe and talk about changes in the weather and the seasons. Note: Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses. Pupils might work scientifically by: making tables and charts about the weather; and making displays of what happens in the world around them, including day length, as the seasons change.		astronomical clocks.	

differently as the seasons change.		
Look for children incorporating their understanding of the seasons and weather in their play		