





Ask Que						T
EYFS Children will ask questions about the environm ent including seasons.	Year 1  Ask questions:  ✓ Ask simple questio ns stimulat ed by their explorat ion of their world.	Ask questions:  ✓ Ask simple questions about their experiences and observations and with support use these observations to suggest ways to discover an answer or solve a problem, recognising that some can be answered in a variety of ways.	Year 3  Ask questions:  ✓ Within a group, suggest relevant questions that can be explored further using different types of scientific enquiry	Year 4  Ask questions:  ✓ Ask relevant questions that can be answered by the appropriate scientific enquiry, research or experiment	Year 5  Ask questions:  ✓ Refine a scientific question so that it can be investigate d, choosing an appropriate type of scientific enquiry to provide the best evidence.	Year 6  Ask questions:  Recognise scientific questions which do not yet have definitive answers and use a range of scientific enquiries to explore possible answers.
vocabula ry Question, environm ent	Vocabulary: (As previous +) Question, stimulated	Vocabulary: (As previous +) simple questions, discover, experiences	Vocabulary: (As previous +) Scientific enquiry, explore	Vocabulary: (As previous +) Research or experiment	Vocabulary: (As previous +) Investigate, refine  Adult Vocabulary: Best evidence	Vocabulary: (As previous +) scientific enquiry types



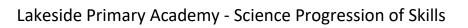




Making Pi	redictions:					
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
They will be able to suggest what might happen with possible observati ons or possible actions.	Respond to suggestions to connect what has been observed with possible further actions or observations.	Use their observations and ideas to make predictions.  Use understanding of what has been observed or own experience to predict outcomes of further actions or observations.	Use straightforward scientific evidence to make predictions. With support, use results, observations or own experience to prompt new questions and predictions for a further test.	Use straightforward scientific evidence to make further predictions. Use results to make predictions for new values and raise further questions.	Recognise when scientific evidence supports an idea or not and use this to support predictions. Use test results to prompt new questions and make predictions for setting up further tests.	Identify scientific evidence that has been used to support or refute ideas or arguments and use this to support predictions. Use test results to make predictions for setting up further comparative and fair tests.
Vocabul ary Question, answer, observe, observin g, what might happen	Vocabulary: (As previous +) Question, answer, observe, observing,		question, careful observ scientific evidence	ous +) predictions, predict, ations, experience, atify, Notice relationships,	Vocabulary: (As previo further tests, comparative	

Decide ho	Decide how to carry out an enquiry:							
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6		
They will	Perform	✓ Identify things to	✓ Plan and	✓ Plan and carry	✓ Plan enquiries,	✓ Recognise		
develop	simple tests	measure or	carry out	out simple	deciding when it	significant		
an	to explore a	observe that are	simple	practical	is appropriate to	variables in		
understa	question or	relevant to the	practical	enquires,	carry out a fair	investigation		
nding of	idea	questions or	enquires,	comparative and	test or another	s, selecting		

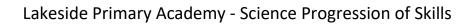






growth, decay and changes over time and show care and concern for living things and the environm ent.  They will use their senses when walking around and investigat ing.	suggested to them, with support observed with possible further actions or observations.	ideas they are investigating using a simple test.  ✓ Suggest a practical way of how to find things out, or collect data to answer a question or idea they are investigating.	comparative and fair tests relevant to the questions or ideas they are investigating, with support.	fair tests relevant to the questions or ideas they are investigating.  ✓ Identify one or more control variables from those provided when conducting a fair test.	type of practical enquiry from a range suggested.  ✓ Identify one or more control variables in investigations when conducting a fair test.	the most suitable to investigate. Controlling variables where appropriate.  ✓ Recognise which type of practical enquiry is most appropriate to the question or idea being investigated, before planning and carrying out the enquiry.
Vocabul ary: investigat e, smell, touch, see, hear and taste, Adult Vocabul ary: chan	Vocabulary: (As previous +) simple test, fair test	Vocabulary: (As previous +) measure, carful observation, investigate, find things out, collect data, answer	Vocabulary: (As previous +) fair test, comparative,	Vocabulary: (As previous	s +) variables	Vocabulary: (As previous +) controlling variable, dependant variable, research



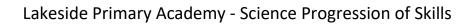




ges, over			
time			

Take Meas	urements:					
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
They can talk about similaritie s and differenc es between living things and materials and make simple observati ons about animals.	✓ Observe objects, living things, events and the world around them closely, using their senses and simple equipme nt. <li>✓ Make measure ments using nonstand ard units of measure.</li>	<ul> <li>✓ Observe closely and use equipment provided for observation and measuring correctly.</li> <li>✓ Make measurements using nonstandard and standard units of measure.</li> </ul>	<ul> <li>✓ Use a range of equipment for measuring and observing, including thermometers and data loggers.</li> <li>✓ Take simple, accurate measurements and/or careful observations using whole number standard units relevant to questions or ideas under investigation.</li> </ul>	<ul> <li>✓ Plan and carry out simple practical enquires, comparative and fair tests relevant to the questions or ideas they are investigating.</li> <li>✓ Identify one or more control variables from those provided when conducting a fair test.</li> </ul>	<ul> <li>✓ Make systematic and careful observations of objects, living things and events.</li> <li>✓ Choose from a range of provided, appropriate equipment for measuring and observing, including thermometers and data loggers.</li> <li>✓ Take accurate measurements using more complex standard units and parts of units.</li> </ul>	<ul> <li>✓ Correctly choose and use appropriate equipment to support observation and data collection with increasing accuracy.</li> <li>✓ Decide whether it is appropriate to repeat observations or measuremen ts and explain how this impacts on data collection.</li> </ul>



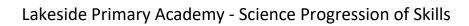




Vocabul	Vocabulary:	Vocabulary: (As	Vocabulary: (As previous +) Observing, accurate	Vocabulary: (As previous +) complex standard
ary:	(As previous	previous +) measuring	measurements,	units, parts of units, systematic, careful, data,
Observati	+) measurement	accurately		
on,	using		Adult Vocabulary: data logger, thermometer	
similaritie	nonstandard and			
s,	units of measure			
differenc				
es,				
equipme				
nt				

Record Da	ıta:					
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
They will be able to suggest what they might wear.	Year 1  ✓ Present evidence they have collected in simple templates provided for them to help in answering questions.  ✓ Draw or photograph evidence and label with support.	Year 2  ✓ Gather and record data in appropriat e ways with increasing independe nce to help in answering questions.	Year 3  ✓ Gather and present evidence and data using simple scientific language and vocabulary as writing, drawings, labelled diagrams and displays and through computing, keys, bar charts or tables (using ranges and intervals chosen for them), to help	Year 4  ✓ Gather and present simple scientific data in a variety of ways as Year 3, including tables and bar charts where intervals and ranges are agreed through discussion, to help in answering questions.	Year 5  ✓ Select appropriate ways of gathering and presenting scientific data through models, writing, drawings, displays, computing, tables or graphs (choosing appropriate ranges and intervals).  ✓ Use correct scientific symbols where appropriate in recording.	Year 6  ✓ Decide on the most appropriate formats to present sets of scientific data, such as using line graphs for continuous variables.  ✓ Record data and results of increasing complexit y using scientific diagrams and labels, classificati



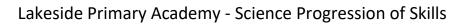




		in answering	on keys,
		questions.	tables,
			scatter
			graphs,
			bar and
			line
			graphs.
Vocabulary: diagram, group,	Vocabulary: (As	Vocabulary: (As previous +) drawings, labelled	Vocabulary: (As previous +) scientific
draw, record	previous	diagrams, keys, bar charts, tables,	diagrams, labels, classification keys, tables,
·	+) Chart, Table,	alagrame, neye, bar ename, tables,	scatter graphs, bar graph and line graph
	Pictogram, Tally	Adult Vocabulary:	Scatter graphs, bar graph and line graph
	chart, block diagram	Systematic, Accurate, Disprove, Notice relationships,	Adult Vocabulary:
	/ graph,	·	
	Order, notice	oral/written explanations	Systematic, Accurate, Disprove, Notice
	patterns, Link ideas,		relationships, oral/written explanations
	Stop watch, map,		
	data, chart		
	data, criart		
	Adult		
	Vocabulary: Gathe		
	r, Evidence,		
	Data, Venn diagram,		
	Identify, Classify, Ra		
	nk, Notice		
	relationships		

Present Da	Present Data:							
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6		
They will	✓ Present	Report on and	✓ Report on	✓ Report on	✓ Present findings	✓ Report		
develop	findings in	record findings as	findings from	findings from	in written form,	and		
questioni	simple	drawings,	enquiries,	enquiries,	displays and	present		
ng and	templates	photographs,	including oral	including oral and	other	findings		
curiosity	provided	labelled diagrams,	and written	written	presentations	from		
through	for them	orally, as displays or	explanations,	explanations,	including orally,	enquiries,		
play and	or orally.		displays or	displays or	explaining results	including		

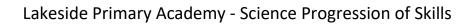






understa nd the concept of forces and electricity through twisting, pushing, slotting and magnetic toys and seeing the effects of pushing different buttons to make sounds and moveme nts.	✓ Draw or photograp h evidence and label with support	in simple prepared tables or charts.	presentations of results and conclusions with support/as a group.  ✓ Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables with support/as a group.	presentations of results and conclusions.  ✓ Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.	and conclusions drawn from results.  ✓ Identify causal relationships in reporting outcomes where appropriate.	conclusio ns, causal relationshi ps and explanatio ns of results in oral and written form, such as displays and other presentati ons.
Vocabul ary: describe, compare	identify	revious +) contrast,  Evidence, Identify	Vocabulary: (As previous written/oral explanations, e		Vocabulary: (As previous +) relationship,	Vocabulary: (As previous +) enquires



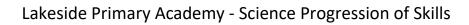




Answerin	g questions using	data:				
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
They will be able to suggest what they might wear.	Respond to suggestions to connect what has been observed with possible further actions or observations.	Use understanding of what has been observed or own experience/ideas to answer questions.	Use straightforward scientific evidence and results of enquiries to answer questions.	Use results to answer questions.	Use results to answer questions.	Use results to answer questions
Vocabul ary: describe, compare, explain	Vocabulary: (As previous +) contrast, identify, answer,	Vocabulary: (As previous	us +) compare, evidence			

Drawing C	Conclusions:					
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
They can talk about similaritie s and differenc	✓ Use their ideas to suggest answers to questions	Respond to suggestions to identify some evidence needed to answer a question.	Say whether what happened was what they expected, acknowledging any unexpected outcomes.	Identify and use straightforward scientific evidence to support and explain their findings.	Recognise when scientific evidence is for or against an argument.	Provide straightforward explanations for differences in repeated measurements or
es between living things and materials	Say what has changed when observin					observations.



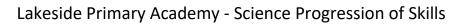




and make simple observati ons about animals.	g objects, living things or events		
Vocabul ary: similaritie s, differenc es, describe	Vocabulary: (As previous +) observat observing, compare, contrast and describe  Adult should also use: Compare, contant describe	pe conclusions	Vocabulary: (As previous +) casual relationship, support, refute ideas

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			Use results of enquiries to consider whether they meet predictions and explain why.	Use results to suggest improvements.	Recognise that the test may need improvements to improve reliability.	Compare their results with others and give reasons why they may be different.
			Vocabulary: compare, o	contrast, secondary resource	ce, research, improvement	

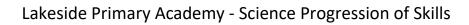






Plants:						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Make simple observati ons about plants and can explain why some things occur.  Drawing pictures of plants.	<ul> <li>✓ identify and name a variety of commo n wild and garden plants, inc luding deciduou s and everg reen trees</li> <li>✓ identify and describe the basic structure of a variety of common flowering plants, including trees</li> <li>✓ Describe the basic structure of a variety of common flowering plants, including trees</li> <li>✓ Describe the basic structure of a variety of common flowering plants,</li> </ul>	<ul> <li>observe and describe how seeds and bulbs grow into mature plants</li> <li>✓ find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul>	the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers  ✓ explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant  ✓ investigate the way in which water is transported within plants  ✓ explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.  ✓ know that plants make their own food			







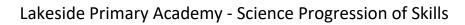
	including trees.					
Vocabul ary: Plant, leaf, stem, flower, grow, rain, sun, water, soil, seed, root, petals, bulb	Vocabulary: (As previous +) Berry, blossom, bud, bulb, branch, flower, fruit, habitat, identify, leaf/leaves, petal, plant, root, seed, bark, stalk, bud, stem, tree, trunk.  Names of trees in local area, garden and wild flowering plants.  Adult should also use:  Wild plant, garden plant, flowering plant, deciduous, evergreen	Vocabulary: (As previous +) Earth, fully grown, grow, growth, healthy, light, nutrients, seed, seedling, shoot, soil, water, bulb, shade, sun, water, healthy  Adult should also use: Mature plant, germinate/germination, pollination, seed dispersal, temperature	Vocabulary: (As previous +) Absorb, fertiliser, plant life cycle, pollination, seed dispersal, seed formation, temperature, transported Photosynthesis, pollen, insect/wind pollination, seed dispersal – wind dispersal, animal dispersal, water dispersal.  Adult should also use: Structure, function, plant tissues, pores, competition for resources	Vocabul ary:	Vocabul ary:	Vocabulary





EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
✓ Health and	✓ Identify and name	✓ notice that	✓ identify that ani	✓ describe	✓ Descr	√ □ identify and
selfcare-	a variety of	animals, including	mals, including	the	ibe	name
children	common animals	humans,	humans, need the	simple	includ	the main parts
notice	including fish,	have offspring	right types and	functions	ing	of the human
changes in	amphibians,	which grow	amount of nutrition,	of the	huma	circulatory syste
their bodies	reptiles, birds and	into adults	and that	basic	ns.	m, and
after	mammals.		they cannot make	parts of	the	describe the funct
exercise		□□✓ find out abo	their own food;	the	chan	ions of the
such as	✓ Identify and name	ut and describe the	they get nutrition fro	digestive	ges	heart, blood vess
heart beating	a variety of	basic needs	m what they eat	system in	as	els and blood
faster.	common animals	of animals, includin		humans	huma	
Children	that are	g	✓ identify that		ns	✓ recognise the
understand	carnivores,	humans, for surviva	humans and	√ identify	devel	impact of diet,
the	herbivores and	I (water, food	some animals	the	op	exercise,
importance	omnivores.	and air)	have skeletons	different	from	drugs and lifestyle
of			and muscles for	types of	birth	on the way their
handwashing	✓ Describe and	√ describe t	support, protectio	teeth in	to old	bodies function
	compare the	he importa	n	humans	age	
	structure of a	nce for	and movement.	and their	(cove	✓ describe the
✓ explore and	variety of	humans		simple	red in	ways in
notice	common	of exercis		functions	PSH	which nutrients
patterns in	animals. (fish, am	e,	_	✓ construct	E)	and water
the natural	phibians, reptiles,	eating the		and		are transported
world e.g. all	birds and	right amou		interpret		within animals,
the birds we	mammals,	nts of		a variety		including human
can see in	including pets)	different ty		of food		S.
the sky have		pes		chains,		✓ explore questions
wings.	✓ Identify, name,	of food, an		identifyin		to understand how th
	draw and label	d hygiene.		g		circulatory system er
✓ know the	the basic parts of			producer		les the body
effects	the human body			S,		to function.

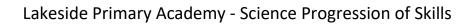






working Scient	tifically					
exercise has on our body.  I know about heathy food and the need of variety in our diet.  I can talk about the different parts of our body.  I Draw and lable main parts of human bodies and including animals.	and say which part of the body is associated with each sense.  ✓ Say which part of the body is associated with each sense.			predators and prey.		✓ learn how to keep their bodies healthy and how their bodies might be damaged – including h ow some drugs and other substances can be harmful to the human body.  Learn about sexual reproduction in humans and the changes that occur during puberty (Mainly covered during PHSE)
Vocabulary: Head, body, eyes, ears, mouth, teeth, leg, names of animal, senses, touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue, tail, wing, claw, fin, scales, feathers, fur, beak,	Vocabulary: (As previous +) Names of common animals, Names of body parts, including animals (wing, claw, tail, beak, fur, feather, fin, scale, paws, hooves) Carnivore, habitat, herbivore, omnivore, pets, senses, wild	Vocabulary: (As previous +) Adult, baby, young, basic needs (water, food, air), carbohydrate, nutrition, child, dairy, exercise, fats, fruit, grow, hygiene, infection,	Vocabulary: (As previous +) Backbone, balanced diet, blood vessels, bones, brain, carbohydrate, dietary fibre, heart, invertebrates, joints, movement, minerals, muscles, nutrients,	Vocabulary: (As previous +) Absorb, anus, blood stream, canines, consumer, decay, dentine, digestion, enamel, energy, faeces, gums, incisors, large	Vocabulary: Puberty, vocabulary linked to describe a range of sexual characteristic s.	Vocabulary: (As previous +) (As prev. +) Addiction, aorta, artery, atrium, blood, bronchi, capillaries, carbon dioxide, circulatory system, deoxygenated, diaphragm, lifestyle, lungs, nicotine,







paws, hooves,	animals, reptile,	offspring,	nutrition, protection,	intestine, molars,	oxygen,
exercise, healthy,	amphibian, mammal	reproduce, oils,	ribs, sockets,	nerves,	oxygenated, plasma,
diet, fruit, vegetable,	Sense; taste - tongue,	protein, sugar,	skeleton, skull, spine,	oesophagus,	pulmonary
	mouth, teeth,	survival,	support,	plaque, predator,	vein/artery, pulse, red
	sight - eyes; hearing -	vegetables,	tendons, vertebrates,	prey, producer,	blood cells,
	ears, sound; touch -	teenager, toddler,	vitamins, sugars,	saliva, small	respiration, vein,
	fingers, skin, nerves;	unhealthy, calf,	protein, fat, water,	intestines,	ventricles, white blood
	smell – nose.	foal, kitten, puppy,	protect, move, joints,	stomach,	cells, heart, rate, pumps,
	Hands, feet, arms, legs,	piglet,	nutrition, nutrients,	swallowing,	blood vessels,
	head, neck, torso, chest,		protein, protect	mouth, teeth,	transported, nutrients,
	back, body,	Adult should	Adult should also	digestive	water, muscles, cycle,
		also	<b>use:</b> Endoskeleton, ex	system,	diet, exercise, drugs,
	Adult should also use:	use: Develop, repr	oskeleton	nutrients,	lifestyle
	Amphibians, reptiles,	oduction, life		herbivore,	
	mammals	cycle, heart		omnivore	Adult should also
		rate, nutrition		Adade also add	<b>use:</b> gaseous exchange,
				Adult should	aerobic
				also use:	respiration, trachea,
					haemoglobin,
				enzymes, gastric juices,	bronchioles, alveoli
				reabsorption of	
				water	
				Water	

Living Things						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
They can talk		✓ explore and		✓ recognise that living	✓ describe the diff	✓ describe how
about their		compare		things (including those in	erences in the	living things are classified
own		the differences		the locality) can be	life cycles of a mam	into broad groups
environment.		between things		grouped in a	mal, an amphibian,	according to common
		that		variety of ways	an insect and a	observable characteristic
Know some		are living, dead,			bird	s and based
similarties		and things that		✓ explore and use		on similarities and differe
and		have never been		classification keys to help	✓ describe the	nces, including micro-
differences		alive		group, identify and name	life	



a variety of living



#### **Working Scientifically**

between natural world around them and contrasting environment.

They can make observations of animals through pictures, words or photographs and can explain why some things occur.

The world: Show care and concern for living things and the environment



- ✓ identify that most living things live in habitats to which they are suited
- ✓ describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they de pend on each other
- ✓ identify and name a variety of plants and animals in their habitats, including micr o-habitats
- ✓ describe how animals obtain their food from plants and other animals
- ✓ understand a simple food chain, and identify and name different sources of food.

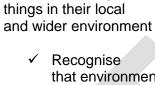












Recognise

 that environments c
 an change and that
 this can sometimes
 pose dangers
 and have an impact
 on living things









process of repro duction in some plants and animals.

- ✓ find out about the work of naturalists and animal behaviourists, for example, David Attenborough a nd Jane Goodall.
- ✓ find out about re production, including sexual and asexual reproduction in plants





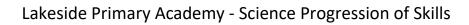




organisms, plants and animals

- ✓ give reas ons for classif ying plants an d animals based on specific chara cteristics.
- ✓ know that broad groupings, such as micro-organisms, plants and animals can be subdivided. (Kingdom, Phylum, Class, Order, Family, Genus, Species)
- ✓ should classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mam mals).
- ✓ find out about significance of the work of philosophers and scientists such as Aristotle and Carl Linnaeus.







Vocabulary: Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, pond, woodland, under logs, in bushes	Vocabular	Vocabulary: (Some previously taught in year 1 animals, inc. humans) Adaptation, adapted, alive, breathe, carnivore, conditions, characteristics, dead, excrete, excretion, feed, food chain, food source, grow, growth, heat, herbivore, living, micro-habitats, move, nonliving, omnivore, reproduce, reproduction, shelter, Names of habitats, micro-habitats and describe conditions, never lived, movement, respiration, sensitivity, nutrition, suitability, plants, animal, predator  Adult should also use: life processes, respire, producer, consumer, sources of food, depends on/suited to	Vocabulary	Vocabulary: (As KS1+) Amphibians, classify, classification keys, environment, mammals, human impact, invertebrates, pollution, reptiles, vertebrates, Plant groups (trees, grasses, flowering and non- flowering plants)  Adult should also use: organism, population, deforestation, development, variation characteristics.	Vocabulary: (As previous +) Anther, asexual reproduction, car pel, external fertilisation, fertilisation, filament, germination, gestation, internal fertilisation, larva, metamorphosis, pollen, pollination, seed dispersal, seed formation, sepal, sexual reproduction, sperm, stamen, style, stigma  Adult should also use: plantlets, runners	Vocabulary: (As previous +) Bacteria, fauna, fermentation, flora, fungi/fungus, genus, microbes, micro-organism, organism, species. Name invertebrates: arachnid, mollusc, insect and crustacean.





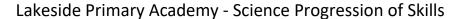
Year 1	Year 2			I Cai J	Year 6
		Year 3	Year 4	Year 5	<ul> <li>✓ Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</li> <li>✓ Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</li> <li>✓ Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</li> </ul>
	Vocabulary:	Vocabulary:	Vocabulary:	Vocabulary:	Vocabulary: Adaptation, chromosomes, competition, DNA, evolution, evolutionary change features, environmental conditions, environmental variations, fossil records, genes, natural selection, reproduction, survival of the fittest, variation  Adult should also use:
		Vocabulary:	Vocabulary: Vocabulary:	Vocabulary: Vocabulary: Vocabulary:	Vocabulary: Vocabulary: Vocabulary: Vocabulary:





Materials						
EYFS	Year 1	Year 2	Year	Year 4	Year 5	Year 6
			3			







Moving and handling Introduce and encourage children to use the vocabulary of manipulation, e.g. squeeze and prod.

The world: Can talk about why things happen and how things work.

Exploring media and materials- notice changes in properties as they are transformed through becoming wet, dry, flaky or fixed. Think about cause and effect.

Safely use and explore a variety of materials, tools and techniques.





- distinguish between an object and the material from which it is made
- identify and name a variety of everyday ma terials, including wood, plastic, glass, met al. water, and rock
- ✓ describe the simple physical properties of a variety of everyday mat erials
- compare and group together a variety of everyday mat erials on the basis of their simple physical properties.













# identify and compa

the suitability of a varie ty of everyday material including wood, metal, plastic, glass, brick,

rock, paper and cardboard for particular uses

✓ find out how... the shapes of solid obje cts made from some materials ca n be changed by squashing, bending, twisting and stretching.



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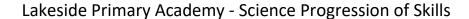


#### States of matter

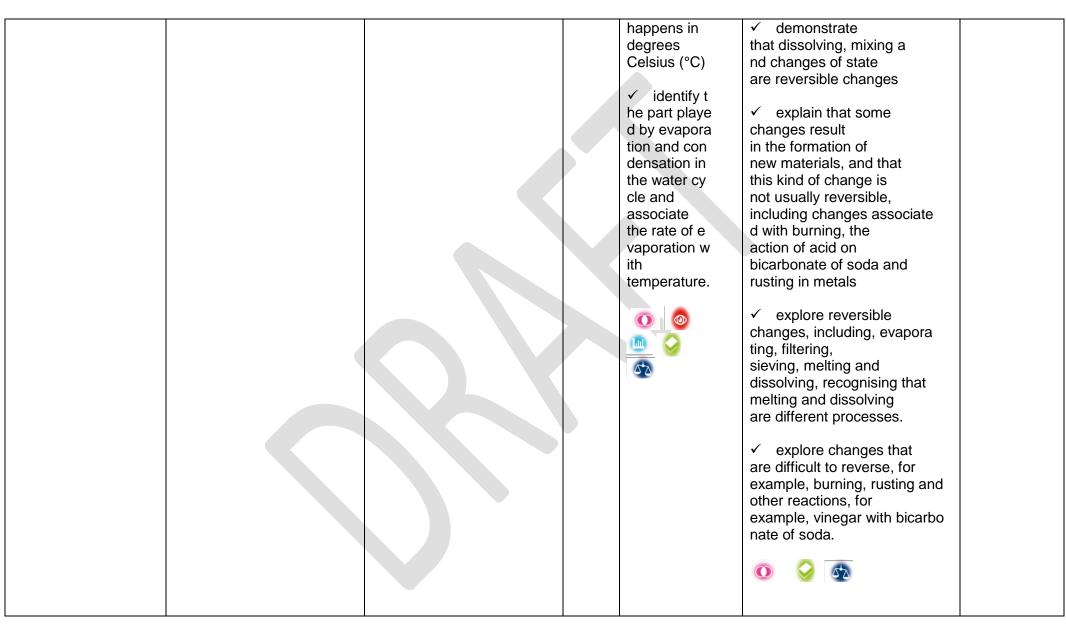
- explore a v ariety of everyday mater ials and develo simple descripti ons of the states of matter
- √ compare and group material s together, according to whether they are solids. liquids or gases
- ✓ observe t hat some mat erials change state when th ey are heated or co oled. and measure or research t he temperature at which this

- compare and group together everyday materials on the basis of their properties. including their hardness. solubility, transparency, conductivity (electrical and thermal), and response to magnets
- know that some materials will dis solve in liquid to form a solution, and describe how to recover a substance fr om a solution
- √ use knowledge of solids, liquids and gases to decide how mixtures migh t be separated, including through filtering, sieving and evapor ating
- ✓ give reasons, based on evidence from compa rative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic













Vocabulary: Wet, dry, shiny, dull, bendy,	Vocabulary: (As previous +) Absorbent, bendy, dull,	Vocabulary: (As previous +) Changes, concrete,	Voca bular	Vocabulary: (As previous	Vocabulary: (As previous +) Burning, dissolve, electrical	Vocabulary:
stiff, squashy,	hard, gas, glass, liquid,	elastic, fabric, flexible, man-		(As previous	conductor, filter, insoluble,	
hard/soft, lumpy,	material, metal,	made, material, natural,	y:	Air, boiling	irreversible change,	
wrinkly. Smooth,	object, plastic, rock,	opaque, properties, reflectiv		point,	mixture, reversible change,	
rough. Object,	rough, shiny, smooth, soft,	e, rigid, rubber,		boiling, condens	rust, sieving, soluble, solute,	
material, wood,	solid, stiff, transparent,	shape, squash, squashing,		ation/condensin	solution, solvent, thermal	
plastic, glass, metal,	water, waterproof, wood.	stretch, stretching, strong,			conductor, thermal insulator.	
water, rock, brick,	water, waterproof, wood.	suitable, translucent,		g, degree Celsius,	Conductor, thermal insulator.	
paper, fabric, elastic,	Adult should also	transparent, twist,		energy,	Adult should also use:	
foil, card/cardboard,	use: properties, reflection	twisting, use/useful, weak,		transfer, evapor	combustion, oxidisation,	
rubber, wool, clay,	doc. proportios, rencotion	unsuitable, wood, metal,		ation/evaporatin	chemical reaction, residue,	
stretchy, floppy,		plastic, glass, brick, rock,		g,	filtrate.	
breaks/tears, see-		paper, carboard, bend,		freezing, freezin	initiato.	
through, not see-		bending, absorbent,		g point,		
through		waterproof,		gaseous, grain,		
an eag.		materpreen,		matter, melting,		
				melting point,		
		Adult should also use:		oxygen, particle		
		characteristics, suitability,		s, powder, water		
		purpose		cycle,		
		Parkets		water vapour.		
		7				
				Adult should		
				also use:		
				solidify, precipit		
				ation,		
				transpiration,		
				forces		
				of attraction.		

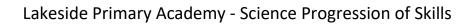




EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			<ul> <li>✓ compare and group together different kinds of rocks on the basis of appearance and simple physical properties</li> <li>✓ describe in simple terms how fossils are formed when things that have lived are trapped within rock</li> <li>✓ recognise that soils are made from rocks and organic matter.</li> <li>✓ </li> </ul>			
		Vocabulary:	Vocabulary: Absorb, extinct, crystals, fossils, granite, grains, humus, igneous, impermeable, layers, magma, metamorphic, mineral, molten, palaeontology/palaeontologists, permeable, rock, sediment, sedimentary, soil Name of rocks: granite, marble, sand, clay, limestone, chalk  Adult should also use: Erosion, particles, physical properties, porous.	Vocabulary:	Vocabulary:	Vocabulary:

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
They show concern and care for the environment and can notice changes and differences.	<ul> <li>✓ observe changes across the four seasons</li> <li>✓ observe and describe weather associated with the seasons and how day length varies.</li> </ul>					
	<u></u>					



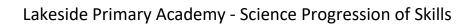




Develops an understanding of decay and changing over time.						
Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.						
Vocabulary: Weather (sunny, rainy, windy, snowy etc.), seasons (Winter, Summer, Spring, Autumn), sun, sunrise, sunset, day length,	Vocabulary: (+ as previous year) Autumn, dark, light, moon movement, season, shadow, spring, summer, winter. Names common types of weather and features, temperature, longer, shorter.  Adult should also use: Day length	Vocabulary:	Vocabulary:	Vocabulary:	Vocabulary:	Vocabulary:

Earth and Space						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

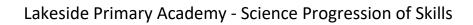






Vocabulary: Vocabu	orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).  ✓ understand that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).	eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006).	<ul> <li>✓ use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</li> <li>✓ learn that the Sun is a star at the</li> </ul>	✓ describe the Sun, Earth and Moon as approximately spherical bodies	✓ describe the movement of the Moon relative to the Earth	solar system	Vocabulary:	Vocabulary:	Vocabulary:	Vocabulary:	Vocabulary:	<ul> <li>✓ describe the movement of the Moon relative to the Earth</li> <li>✓ describe the Sun, Earth and Moon as approximately spherical bodies</li> <li>✓ use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</li> <li>✓ 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).</li> <li>✓ 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).</li> <li>✓ 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).</li> </ul>	Vocabul
comets galaxy light years meteors orbit phases of		orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).  ✓ 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).  ✓ tocabulary:  ✓ Vocabulary:  ✓ Voc	eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006).  ✓ 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).  ✓ 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).  ✓ 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).  ✓ wocabulary: Vocabulary: Vocabulary: Vocabulary: Asteroids, axes/axis, celestial body, Vocabulary: Vocabula	explain day and night and the apparent movement of the sun across the sky.  ✓ 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).  ✓ 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).  ✓ 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).  ✓ words a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).  ✓ words a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).	approximately spherical bodies  v use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.  v 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).  v 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).  v 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).  voice of the Earth's rotation to explain the sun as the star at the centre of our solar system and that it has eight planet:  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).	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.  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).  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).  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).  Uocabulary: Vocabulary: Vocabulary: Vocabulary: Asteroids, axes/axis, celestial body, Vocabulary: Vocabulary: Asteroids, axes/axis, celestial body, Vocabulary: Vocabulary: Vocabulary: Vocabulary: Vocabulary: Vocabulary: Vocabulary: Asteroids, axes/axis, celestial body, Vocabulary: Vocabul						the moon, planet, revolve, rotation, shadow clocks,	







	spherical, spin, solar system, star, sun, sundials, time zone, names of planets.
	Adult should also use: Geocentric model, Heliocentric model, elliptical orbit.

Sound						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
The world: Children respond to their senses: sights, sounds and smells in the environment.				<ul> <li>✓ identify how sounds are made, associating them with something vibrating</li> <li>✓ recognise that vibrations from sounds travel through a medium to the ear</li> <li>✓ find patterns between the pitch of a sound and features of the object that produced it</li> <li>✓ find patterns between the volume of a sound and the strength of the vibrations that produced it</li> <li>✓ recognise that sounds get fainter as the distance from the sound source increases.</li> </ul>		
Vocabulary: sound	Vocabulary:	Vocabulary:	Vocabulary:	Vocabulary: Brass, echo, insulation, instrument, percussion, pitch, sound source, sound wave, string, travel, tune, tuning fork, vibration, volume, woodwind  Adult should also use: Strength of vibrations, reflection of sound	Vocabulary:	Vocabulary:





Light						
EYFS	Year 1	Year 2	Year 3	Year 4	Ye ar 5	Year 6
The world: Children respond to their senses: sights, sounds and smells in the environment .			<ul> <li>✓ recognise that they need light in order to see things and that dark is the absence of light</li> <li>✓ notice that light is reflected from surfaces</li> <li>✓ recognise that light from the sun can be dangerous and that there are ways to protect their eyes</li> <li>✓ recognise that shadows are formed when the light from a light source is blocked by a solid object</li> <li>✓ find patterns in the way that the size of shadows changes.</li> </ul>			✓ 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. ✓ look at a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water and coloured filters. Introduce the term refraction (they do not need to explain why these phenomena occur).

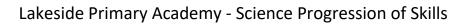




Vocabulary	Vocabula	Vocabula	Vocabulary:	Vo	Vocabulary: (As prev. +):
: smell,	ry:	ry:	Absorb, beam, block, direction of	ca	Absorption, cornea, lenses, iris, light ray, optics, pupil, prism,
look, see			light, bright, dim, dull, dark, light,	bul	rainbow, refraction, symmetry, spectrum, transmission.
			light source, mirror, opaque,	ary	
			reflect, reflective, shadow, shiny,	:	
			sun light, translucent, transparent		
			Names of light sources, dark,		
			absence of light, matt, surface,		
			dangerous, absence of light,		
			sunlight, dangerous		
			Adult should also use: Speed of		
			light, emit, light spectrum		

Forces						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Moving and			✓ compare how things move		✓ explain	
handling			on different surfaces		that unsupported objects fall towards the Earth	
Introduce and					because of the force of	
encourage			✓ notice that some forces		gravity acting between the Earth and the falling	
children to use			need contact between two		object	
the vocabulary of			objects,			
manipulation, e.g			but magnetic forces can act		✓ identify the effects of air	
squeeze and			at a distance		resistance, water	
prod.					resistance and friction, that act	
			✓ observe how magnets		between moving surfaces	
Technology-			attract or repel each other			
shows an interest			and attract some materials and		✓ recognise that some mechanisms,	
in technological			not others		including levers, pulleys and gears, allow	
toys with knobs or					a smaller force to have a greater effect.	
pulleys, or real			✓ compare and			
objects such as			group together a variety of every		✓ explore the effects of air	
			day materials on the basis of		resistance by observing how different	







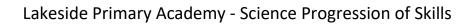
cameras or mobile phones.			whether they are attracted to a magnet, and identify some magnetic materials  ✓ describe magnets as having two poles  ✓ predict whether two magnets will attract or repeleach other, depending on which poles are facing.		objects such as parachutes and sycamore seeds fall.  ✓ explore the effects of friction on moveme nt and find out how it slows or stops moving objects.  ✓ find out how scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation.	
Vocabulary: Push, pull, twist, stretch, turn, open, lift, squeeze, pinch, flick, tap, force, attract, repel, magnetic materials, iron, steel, poles, north pole, south pole	Vocabula ry:	Vocabula ry:	Vocabulary: (As prev. +): Air resistance, attract, bar magnet, button magnet, compass, contact, float, force, push, pull, twist, contact force, force-meter, friction, gravity, horse shoe magnet, iron, magnet, magnetic force, magnetic North, non-contact force, non-magnetic, North pole, poles, repel, ring magnet, sink, South pole, strength, metal, steel, ring magnet, button magnet,  Adult should also use: Constant force, Newton meter, Newton	Vocabula ry:	Vocabulary: (As previous +) Drag forces, gears, levers, mechanisms, Newton, non-contact force, pulleys, reliable, springs, transference of force and motion, water resistance, weight, Earth, air resistance, simple machines, levers, pulleys, gears	Vocabulary:





Electricity						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Technology- shows skills in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movement or new images.				✓ identify common appliances that run on electricity  ✓ construct a simple series circuit, identifying/naming its basic parts, including cell, wire, bulb, switch and buz zer  ✓ use their circuits to create simple devices  ✓ draw the circuit as a pictorial representatio n using conventional circuit component symbols  ✓ identify precautions for working safely with electricity  ✓ identify whether or not a lamp will light in a simple series circuit  ✓ recognise that a switch opens and closes a		<ul> <li>✓ associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</li> <li>✓ compare and give reasons for variations in how componen ts function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches</li> <li>✓ construct simple series circuits, to help them to answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors.</li> <li>✓ learn how to represent a simple circuit in a diagram using recogni sed symbols.</li> </ul>







				circuit and associate this with whether or not a lamp lights in a simple series circuit  ✓ recognise some common conductors and insulators, an d associate metals with being good conductors.		
Vocabulary: battery, switch, electricity, move, sound, work, safety, electrical	Vocabula ry:	Vocabula ry:	Vocabula ry:	Vocabulary: (As previous +) Battery, bulb, buzzer, cell, circuit, closed, circuit, components, complete circuit, conductor, connect/ connectors, loose connection, short circuit, connection, crocodile clip, electricity, electrical device/ appliance, insula tor, mains, motor, negative, open circuit, plug, positive, rechargeable, simple circuit, symbol, switch, terminals, wires, metal, non-metal  Adult should also use: series circuit, terminal	Vocabulary:	Vocabulary (As previous +) Current, electrons, filament, fuse, resistance, series circuit, terminal, voltage volume, voltage  Adult should also use: Parallel circuit