Drake Primary School and Little Pirates

Year 1 Science Curriculum Overview 2024-2025



Science National Curriculum	 Biology: Plants Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees. Physics: Seasonal changes Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. 	 Chemistry: Everyday materials Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials including wood, plastic, glass, metal, water, and rock. Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties. Biology: Animals, including humans (body parts and senses objective) Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. 	 Biology: Animals, including humans 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. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).
Key Concepts	PlantsGrowing locally, there will be a vast array of plants which all have specific names.These can be identified by looking at the key characteristics of the plant. Plants have common parts, but they vary between the different types of plants.Some trees keep their leaves all year while other trees drop their leaves during autumn and grow them again during spring.Seasonal changes In the UK, the day length is longest at mid-summer (about 16 hours) and gets shorter each day until mid-winter (about 8 hours) before getting longer again.	Everyday materials All objects are made of one or more materials. Some objects can be made from different materials e.g. plastic, metal or wooden spoons. Materials can be described by their properties e.g. shiny, stretchy, rough etc. Some materials e.g. plastic can be in different forms with very different properties. Animals, including humans (body parts and senses objective) Humans (and other animals) find out about the world using their senses. Humans have five senses – sight, touch, taste, hearing and smelling. These senses are linked to particular parts of the body.	Animals, including humans Animals vary in many ways having different structures e.g. wings, tails, ears etc. They also have different skin coverings e.g. scales, feathers, hair. These key features can be used to identify them. Animals eat certain things - some eat other animals, some eat plants, some eat both plants and animals. Humans have key parts in common, but these vary from person to person.

	The weather also changes with the seasons. In the UK, it is usually colder and rainier in winter, and hotter and dryer in the summer. The change in weather causes many other changes. Some examples are: numbers of minibeasts found outside; seed and plant growth; leaves on trees; and type of clothes worn by people.		
Common misconceptions	 Plants Some children may think: plants are flowering plants grown in pots with coloured petals and leaves and a stem trees are not plants all leaves are green all stems are green a trunk is not a stem blossom is not a flower. Seasonal changes Some children may think: it always snows in winter it is always sunny in the summer there are only flowers in spring and summer it rains most in the winter. 	Materials Some children may think: • only fabrics are materials • only building materials are materials • only writing materials are materials • the word 'rock' describes an object rather than a material • 'solid' is another word for hard.	 Animals, including humans Some children may think: only four-legged mammals, such as pets, are animals humans are not animals insects are not animals all 'bugs' or 'creepy crawlies', such as spiders, are part of the insect group amphibians and reptiles are the same.
Possible activities	 Plants Make close observations of leaves, seeds, flowers etc. Compare two leaves, seeds, flowers etc. Classify leaves, seeds, flowers etc. using a range of characteristics. Identify plants by matching them to named images. 	 Materials Classify objects made of one material in different ways e.g. a group of objects made of metal. Classify in different ways one type of object made from a range of materials e.g. a collection of spoons made of different materials. 	 Animals Make first-hand, close observations of animals from each of the groups. Compare two animals from the same or different groups. Classify animals using a range of features. Identify animals by matching them to named images. Classify animals according to what they eat.

	 Make observations of how plants change over a period of time. When further afield, spot plants that are the same as those in the local area studied regularly, describing the key features that helped them. Seasonal changes Collect information about the weather regularly throughout the year. Present this information in tables and charts to compare the weather across the seasons. Collect information, regularly throughout the year, of features that change with the seasons e.g. plants, animals, humans. Present this information in different ways to compare the seasons. Gather data about day length regularly throughout the year and present this to compare the seasons. 	 Classify materials based on their properties. Test the properties of objects e.g. absorbency of cloths, strength of party hats made of different papers, stiffness of paper plates, waterproofness of shelters. Animals Make first-hand close observations of parts of the body e.g. hands, eyes. Compare two people. Take measurements of parts of their body. Compare parts of their own body. Look for patterns between people e.g. Do people with big hands have big feet? Classify people according to their features. Investigate human senses e.g. Which part of my body is good for feeling, which is not? Which food/flavours can I identify by taste? Which smells can I match? 	
Scientists https://pstt.org.uk /unique- resources/a- scientist-just-like- me/	Angie Burnett (Plant Biologist) Seasonal changes Vanessa Emeka-Okafor (Astrophysicist) Seasonal changes	Animals Navaratnam Partheeban (Veterinary Surgeon) Plants Materials Dr Raquel Prado (Renewable Materials Engineer)	Animals including humans Temple Grandin (Designer) 'The girl who thought in pictures' Image: Second

Arts enrichment opportunities	Plants Observational sketches of leaves, flowers, stems, petals and label the parts Seasonal Rubbing of tree bark	Materials Model out of materials- bridge? tower? Animals, including humans The Humanae project in September- focusing on what make us similar and what make us different- focus on skin colour	Animals including Humans Draw round body on playground with chalk
Books you could use https://www.stem. org.uk/teaching- science-through- stories	Jack and the beanstalk (traditional tale)- The story of Jack and the Beanstalk makes a great starting point for teaching the topic of plants to younger primary aged children. One year with Kipper (Mick Inkpen)- One Year with Kipper provides a nice link into work on Seasonal Change as children work to observe changes across the four seasons. Lila and the Secret of Rain (David Conway)- This is a beautiful picture book that depicts a Kenyan village during a drought. From head to toe (Eric Carle)- body parts and movement	The three little pigs (traditional tale)- Help children to think about identifying different materials and considering what properties they have and how this suits them for different purposes. Handa's Surprise (Eileen Browne)- Handa's Surprise would make a great starting point about the needs of living things linked to diet and the specific needs of humans.	 Tadpole's Promise (Jeanne Willis) -Tadpole's Promise is a great story to use when exploring life cycles and helping children to describe the difference in the life cycle of a mammal, an amphibian, an insect and a bird. Mama Miti (Donna Jo Napoli)- the true story of Wangari Maathai, who founded Kenya's Green Belt movement and was the first African woman to receive the Nobel Peace Prize.
Trips / Visitors / Experiences	Doctor / nurse / dentist visit?	Local area walk- to spot materials	Frederick's Wood visit to look at plants Owl Sanctuary / dissect owl pellets

KS1 Working	 Asking simple questions and recognising that they can be answered in different ways. Observing closely, using simple equipment. 				
Scientifically	 Performing simple tests. 				
National	 Identifying and classifying. 				
Curriculum	 Using their observations and ideas t 	o suggest answers to questions.			
	Gathering and recording data to help in answering questions.				
	Plants	Everyday materials	Animals, including humans		
	Comparative / fair testing	Comparative / fair testing	Research		
	Which type of compost grows the tallest	Which materials are the most flexible?	How are the animals in Australia different to		
	sunflower?	Which materials are the most absorbent?	the ones that we find in Britain?		
	Research	Research	Do all animals have the same senses as		
	What are the most common British plants	How are bricks made?	humans?		
	and where can we find them?	Which materials can be recycled?	Observation over time		
	Observation over time	Observation over time	How does my height change over the year?		
	How does a daffodil bulb change over the	What happens to materials over time if we	Identifying, grouping and classifying		
	year?	bury them in the ground?	How can we organise all the zoo animals?		
	How does my sunflower change each	What happens to shaving foam over time?	Scientific Discovery		
	week?	Pattern Seeking	What did Temple Grandin do?		
	Pattern Seeking	Is there a pattern in the types of materials			
	Do trees with bigger leaves lose their	that are used to make objects in a school?			
Enquiry	leaves first in autumn?	Identifying, grouping and classifying			
suggestions	Is there a pattern in where we find moss	We need to choose a material to make an			
	growing in the school grounds?	umbrella. Which materials are waterproof?			
	Which tree has the biggest leaves?	Which materials will float and which will			
	Identifying, grouping and classifying	sink?			
	How can we sort the leaves that we	Scientific Discovery			
	collected on our walk?	How are building materials different now to			
	Scientific Discovery	when Queen Elizabeth I was on the throne?			
	What is a plant biologist?	What is XelfleX? How did Martin Brock invent			
		it?			
	Seasonal changes	What did Charles Macintosh invent?			
	Comparative / fair testing	Animals, including humans (body parts and			
	In which season does it rain the most?	senses objective)			
	Research	Comparative / fair testing			
	Are there plants that are in flower in	Is our sense of smell better when we can't			
	every season? What are they?	see?			
	Observation over time	Pattern Seeking			
			·		

	How does the oak tree change over the	Do you get better at smelling as you get	
	year?	older?	
	How does the colour of a UV bead change	Identifying, grouping and classifying	
	over the day?	What are the names for all the parts of our	
	Pattern Seeking	bodies?	
	Does the wind always blow the same		
	way?		
	Identifying, grouping and classifying		
	How would you group these things based		
	on which season you are most likely to		
	see them in?		
	Plants	Materials	Animals
	 Can name trees and other plants that 	 Can label a picture or diagram of an object 	Can name a range of animals which includes
	they see regularly	made from different materials	animals from each of the vertebrate groups
	 Can describe some of the key features 	 Can describe the properties of different 	 Can describe the key features of these
	of these trees and plants e.g. the shape	materials	named animals
	of the leaves, the colour of the	 Can sort objects and materials using a 	 Can label key features on a picture/diagram
	flower/blossom	range of properties	 Can write descriptively about an animal
	 Can point out trees which lost their 	 Can choose an appropriate method for 	 Can write a What am I? riddle about an
	leaves and those that kept them the	testing an object for a particular property	animal
	whole year	 Can use their test evidence to answer the 	 Can describe what a range of animals eat
A.R.E. / skills	 Can point to and name the parts of a 	questions about properties e.g. "Which cloth	 Can sort and group animals using similarities
progression	plant, recognising that they are not	is the most absorbent?"	and differences
P 0	always the same e.g. leaves and stems	Animals	 Can use simple charts etc. to identify
(possible	may not be green	 Can play and lead 'Simon says' 	unknown animals
evidence)	Seasonal changes	 During PE lessons, can follow instructions 	• Can create a drawing of an imaginary animal
	 Can name the four seasons and identify 	involving parts of the body	labelling its key features
	when in the year they occur	 Can label parts of the body on pictures and 	 Can use secondary resources to find out
	 Can describe weather in different 	diagrams	what animals eat, including talking to experts
	seasons over a year	 Can explore objects using different senses 	e.g. pet owners, zookeepers etc.
	 Can describe days as being longer (in 	 Can use first-hand close observations to 	
	time) in the summer and shorter in the	make detailed drawings	
	winter	 Can name body parts correctly when 	
	 Can describe other features that change 	talking about measurements and	
	through the year	comparisons e.g. "My arm is x straws long."	
		"My arm is x straws long and my leg is y	
		straws long. My leg is longer than my arm."	

			"We both have hands, mine." "These people these have blue." • Can talk about their investigations using ap e.g. "My fingers are muthan my toes" "We for	but his are bigger than have brown eyes and findings from propriate vocabulary uch better at feeling und that the crisps all	
			taste the same."		
	Concept	Concept Questions- I	Materials:	Concept Questions-	Plants
	Questions- Plants:	1 st lesson of the unit:	Concept questions-	Animals:	Revisit Plants
	1° lesson of the	Drake > CURRICIULIN	ds d Cidss. 1 DEV > Science >	Concept questions	Animals including humans
	auestions- do these	2024/25 > Concept at	lestions	do these collectively	Revisit Animals, including humans
	collectively as a	, , ,		as a class.	, 3
	class.	Flashback Questions	:	Drake >	
	Drake >	Every lesson- begin w	vith 3 flashback	CURRICULUM DEV >	
	CURRICULUM DEV	questions- do these c	collectively as a class.	Science > 2024/25>	
	> Science >			Concept questions	
	2024/25> Concept	Drake > CURRICULUN	1 DEV > Science >	Elashback Questions:	
Prior	questions	2024/23/ Hashback (Juestions	Every lesson- begin	
knowledge	Flashback			with 3 flashback	
check	Questions:			questions- do these	
	Every lesson- begin			collectively as a class.	
	with 3 flashback			Drake >	
	questions- do these			CURRICULUM DEV >	
	collectively as a			Science > 2024/25>	
	Class. Drake >			Tiashback questions	
	CURRICULUM DEV				
	> Science >				
	2024/25>				
	Flashback				
	questions				

Assessment	Autumn mid-term Summative	Spring mid-term Summative assessment:	Summer mid-term Summative assessment:
	assessment: Head start Progress test A	Head start Progress test B	Head start Progress test C

	Mine	Nimbus	Compass
YEAR 1 Vocabulary	Enquiry types: Comparative / fair testing, Research, Observation over time, Pattern Seeking, Identifying, grouping and classifying, Scientific Discovery	Enquiry types: Comparative / fair testing, Research, Observation over time, Pattern Seeking, Identifying, grouping and classifying, Scientific Discovery	Enquiry types: Comparative / fair testing, Research, Observation over time, Pattern Seeking, Identifying, grouping and classifying, Scientific Discovery
	Working Scientifically: Experience, observe, changes, patterns, grouping, sorting, classifying, compare, identify (name), data, measure, record, equipment, questions, test, investigate, explore, magnifying glass / hand lens, same, different, questioning, data Plants: plants, wild plants, garden plants, evergreen trees, deciduous trees, common flowering plants, trees, flowers, vegetables, leaf/leaves, flower, blossom, petal, fruit, roots, bulb, seed, stem, trunk, branch, berry, trunk, bark, stalk, bud, Names of trees in the local area, Names of garden and wild flowering plants in the local area	Working Scientifically: Experience, observe, changes, patterns, grouping, sorting, classifying, compare, identify (name), data, measure, record, equipment, questions, test, investigate, explore, magnifying glass / hand lens, same, different, questioning, data Materials: everyday materials, object, wood, paper, plastic, metal, glass, water, rock, brick, stone, fabric, elastic, foil, dough, wool, rubber, card, cardboard, clay, material, physical properties, make/made, hard/soft, shiny/dull, stretchy/stiff, rough/smooth, bendy/floppy, bendy/not bendy, waterproof/not waterproof, see-through/	 Working Scientifically: Experience, observe, changes, patterns, grouping, sorting, classifying, compare, identify (name), data, measure, record, equipment, questions, test, investigate, explore, magnifying glass / hand lens, same, different, questioning, data Animals, including humans: names of common animals: fish, amphibians, reptiles, birds, mammals. Carnivores, herbivores, omnivores, structure, human body Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves

	Seasonal changes: seasons, seasonal change, spring, summer, autumn, winter, sun, sunrise, sunset, day length, weather, sun, sun glasses, sunny, rainy, windy, snowy, sleet, ice, frost, fog, cloud, hot, cold, storm, sky, earth, night, day	not see through, absorbent/not absorbent, breaks, tears Animals, including humans (body parts and senses): Body parts: feet, fingers, toes, elbows, knees, hair, teeth, head, neck, arms, legs, face, ears, eyes, mouth, tongue, nose,	
		Also, parts of the body including those linked to RSE teaching Senses: see, hear, feel, smell, taste, touch, fingers (skin), eyes, nose, ear, tongue	
Sentence Stems	Knowledge:understand thatI wonder ifThe picture reminds me ofThe most important idea isAn example ofisI already know thatA type ofisAis different from abecauseis the same asbecause they bothandboth haveThe science term that describesisThe word I am thinking of is like		
	Working scientifically: First, I need to find of I sawwhich made me think I think this was caused by It would be easier if How would I be able to check? I predict thatbecause I thinkbecause This happened because I will test my prediction by	out	

I have reached the conclusion that
My observations show that
There is a patternIt shows that
was caused by