

Questions to Develop Children's Spirituality in Science:	Do you believe there is creator of the earth? Do you believe in evolution, that humans came from monkeys and we all developed Does the theory of evolution mean you are just a monkey? Are you just a pile of atoms? In what ways are you like your parents (made in their image)? What is it like to be made in the image of God? Why is it that no two people on the earth are exactly the same- not even twins? Is your behaviour learnt of inbuilt- are we naturally selfish? When you look around at the wonders of the natural world do you think these thir design?
Development of the child:	Questioning, wonder, critical mind, reasoning and awe.

loped from fish?

things were created by accident or by



Topic: Animals	Prior Knowledge/Links:	
Subject: Science- Animals, including humans	 ELG - Understanding the World – The Natural World Explore the natural world around them, making observations and drawing pictures of animal Know some similarities and differences between the natural world around them and contrast what has been read in class Understand some important processes and changes in the natural world around them, include Children should already know: The features of some different animals. How to care for animals. What animals need to live and grow. Know simple vocabulary linked to animals and living things. 	ting environn
National Curriculum Objectives	Key Knowledge and Vocabulary	
 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). Explore and compare the differences between things that are living, dead, and things that have never been alive. 	 Knowledge and vocabulary Know what all living things have in common- breathe, grow, move, sense, reproduce, excrete, feed. Know the groups of animals: mammals, reptiles, amphibians, birds and fish. Know the differences between the five main groups of animals. Know that mammals have hair or fur; give birth to live young; feed their young milk and are warm-blooded. Know that reptiles have dry scaly skin; that they live in and near water; they lay hard, leathery eggs on land; their young look like miniature versions of the adults and they are cold-blooded. Know that amphibians have wet smooth skin; they live in and near water; they lay soft, jelly-like eggs in water; their young do not look like the adults when they hatch but change over time and they are cold-blooded. Know that birds have feathers, wings and beaks; know that some birds are flightless; know that birds nest; they are warm blooded; they feed their young until they are ready to leave the nest. Know that fish live in water; they cannot breath out of water; they have gills; they lay soft jelly-like eggs in water. Know that animals all have senses. Know the five senses are: sight, taste, touch, hearing and smell. Know what the different animals eat and use the terms omnivore, carnivore and herbivore. 	gro man rep amph bi differences ani m warm cold b ha eq jelly flightle be sl feat ne g brea

nments, drawing on their experiences and

asons and changing states of matter

roups ammals eptiles phibians birds fish ces/similarities nimals milk n blooded l blooded natch eggs elly like less wings beaks skin eathers nests gills eathing

sense sight taste touch smell hearing carnivore herbivore omnivore



Topic: Growth and Green Fingers	Prior Knowledge/Links:		
	ELG - Understanding the World – The Natural World		
Subject: Science- Plants	 Explore the natural world around them, making observations and drawing pictures of animals 		
	 Know some similarities and differences between the natural world around them and contrasting en 	nvir	
	and what has been read in class		
	 Understand some important processes and changes in the natural world around them, including the 	ie si	
	Children should already know:		
	 Know the changes that occur across the four seasons. 		
	 Know that there are many types of plants. 		
	Know some plant parts.		
	Know that trees are plants.		
	 Know that there are plants which we can eat. 		
National Curriculum Objectives	Key Knowledge and Vocabulary		
 Identify and name a variety of 	 Know the difference between fruit and vegetables. 		
common wild and garden plants,	 Know that a fruit is the seed bearing part of the plant. 		
including deciduous and evergreen	 Know that vegetables are the roots, stalks and leaves of a plant. 		
trees.	 Know that the flowering part of a plant produces the seeds. 		
Identify and describe the basic	 Know the life cycle of some common plants e.g. broad bean, sunflower, strawberries, daffodil. 		
structure of a variety of common	 Know that plants grow from seeds or bulbs. 		
flowering plants, including trees.	 Know how a plant is structured. 		
Observe and describe how seeds and	 Know and be able to label the roots, stalk/stem, leaves, flowers, seeds and fruits. 		
bulbs grow into mature plants.	 Know what the purpose of the different parts of a plant are. 		
Find out and describe how plants need water, light and a suitable	 Know what plants need to grow healthily. 		
need water, light and a suitable temperature to grow and stay	 Know the names of and be able to identify some common plants and trees found in our locality 		
healthy.	e.g. sycamore, oak, beech, horse chestnut, strawberries, crocuses, snowdrops, bluebells,		
 Observe changes across the four 	daffodils, dandelions, daisies etc.		
seasons.	 Know how the seasons affect the trees and plants in our locality. 		
 Observe and describe weather 	 Know and use the terms deciduous and evergreen. 		
associated with the seasons and how	 Know what happens to the plants and trees in our locality through the four seasons. 		
day length varies.	 Know the names of the four seasons- Autumn, Winter, Spring and Summer. 		

ironments, drawing on their experiences

seasons and changing states of matter

fruit vegetables seed bearing plants roots stalks leaves produces seeds bulbs structured flowers flowering fruits healthy growth seasons deciduous evergreen

four seasons Autumn Spring Summer Winter



Topic: The Great Outdoors	Prior Knowledge/Links: ELG - Understanding the World – The Natural World		
Subject: Science- Everyday Materials	 Explore the natural world around them, making observations and drawing pictures of animals Know some similarities and differences between the natural world around them and contrasting environment has been read in class Understand some important processes and changes in the natural world around them, including the Children should already know: Know some simple vocabulary to describe materials e.g. shiny, dull, fluffy, soft, hard, rough, bumpy, Know that materials are used for different purposes. Know the similarities and differences between some materials. 	seasons and changing s	tates of matter
National Curriculum Objectives	Key Knowledge and Vocabulary		
 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. Compare and group together a variety of everyday materials on the basis of their simple physical properties. Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 	 Know the difference between the name of an object and the material from which it is made. Know and be able to name a variety of everyday materials, including wood, plastic, glass, metal, water, rock, brick, paper and cardboard. Know the simple physical properties of a variety of everyday materials. E.g. soft, hard, rough, smooth, flexible, stiff, transparent and opaque. Know what are appropriate materials for different purposes? E.g. waterproof materials are needed for rain jackets, wellies or umbrellas. Absorbent materials are needed for towels. 	object material everyday materials wood plastic glass metal water rock brick paper cardboard naturally man-made	physical properties soft hard rough smooth flexible stiff transparent opaque purposes waterproof absorbent suitability squashing bending twisting stretching



Topic: Robots Subject: Science- Animals Humans	 Prior Knowledge/Links: ELG - Understanding the World – The Natural World Explore the natural world around them, making observations and drawing pictures of animals Know some similarities and differences between the natural world around them and contrasting environments, drawing been read in class Understand some important processes and changes in the natural world around them, including the seasons and change Children should already know: Know the features on our faces. Know that every human is different. Know the anter some sinked to senses. Know the names of body parts. 		
 National Curriculum Objectives Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Notice that animals, including humans, have offspring which grow into adults Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. 	 Know that humans are mammals. Know that animals need water, food and air to survive. Know that numans have offspring just like other animals. Know that as mammals we give birth to live young and feed our young milk. Know that human offspring are a smaller version of an adult. Know why exercise is important to humans and the immediate effects that exercise has on the body e.g. heart rate, out of breath, hot etc. Know the main food groups and what a healthy plate looks like. E.g. protein, carbohydrates, oils and spreads, dairy, and fruit and vegetables. Know what different foods provide the body with. Know how to wash hands correctly. Know how to wash hands correctly. Know why we should wash our bodies and brush our teeth regularly. 	mammals humans live young shelter hydrated energy segment observation prediction	water air food survive/survival adult offspring exercise heart rate life cycle health/healthy



Topic: Fighting Fit	Prior Knowledge/Links:		
	ELG - Understanding the World – The Natural World		
Subject: Science- Animals	 Explore the natural world around them, making observations and drawing pictures of animals 		
Humans	Know some similarities and differences between the natural world around them and contrasting environments	s, drawing on thei	r experie
	has been read in class		
	Understand some important processes and changes in the natural world around them, including the seasons a	ind changing state	s of matt
	Children should already know:		
	Know the features on our faces.		
	 Know that every human is different. 		
	 Know features linked to senses. 		
	 Know the names of body parts. 		
National Curriculum Objectives	Key Knowledge and Vocabulary		
 Identify, name, draw and 	• Know the main parts of the body and label correctly. Head, arms, legs, hands, feet, toes, arms, eyes, ears,	head	
label the basic parts of the	nose, mouth.	arms	
human body and say which	 Know the parts of the body related to each of the five senses. 	legs	
part of the body is	 Know how the human body moves and be able to compare with mechanical objects like robots. 	feet	surv
associated with each sense.	 Know that humans are mammals. 	toes	
 Notice that animals, 	 Know that animals need water, food and air to survive. 	hands	
including humans, have	 Know that humans have offspring just like other animals. 	eyes	amph
offspring which grow into	 Know that as mammals we give birth to live young and feed our young milk. 	ears	/
adults.	 Know that human offspring are a smaller version of an adult. 	mouth	le a sed
• Find out about and	Know that animals produce offspring in different ways e.g. birds lay hard eggs in nests, reptiles lay leathery	nose	hard
describe the basic needs of	eggs on land, amphibians lay soft eggs in water and fish lay soft eggs in water.	senses	1
animals, including humans,	 Know that birds, reptiles and fish offspring all start off as miniature versions of an adult. 	sight touch	
for survival (water, food	 Know that amphibian offspring change as they grow e.g. tadpole, froglet, frog. 	taste	n
and air).	 Know why exercise is important to humans and the immediate effects that exercise has on the body e.g. 	hearing	je
 Describe the importance for humans of exercise, 	heart rate, out of breath, hot etc.	smell	Je
eating the right amounts of	 Know the main food groups and what a healthy plate looks like. E.g. protein, carbohydrates, oils and 	mammals	
different types of food, and	spreads, dairy, and fruit and vegetables.	humans	
hygiene.	 Know what different foods provide the body with. 	live young	hea
	 Know why hand washing is important. 	, 0	
	 Know how to wash hands correctly. 		
	 Know why we should wash our bodies and brush our teeth regularly. 		

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water air food urvive/survival adult offspring phibians/reptiles /fish/birds soft eggs rd leathery eggs hard eggs nests land near water jelly like eggs exercise heart rate life cycle nealth/healthy tadpole froglet frog



Topic: The Farm Shop	Prior Knowledge/Links:		
	ELG - Understanding the World – The Natural World		
Subject: Science- Plants	 Explore the natural world around them, making observations and drawing pictures of animals 		
	Know some similarities and differences between the natural world around them and contrasting envir	onments, d	
	what has been read in class		
	Understand some important processes and changes in the natural world around them, including the s	easons and	
	Children should already know:		
	 Know the changes that occur across the four seasons. 		
	 Know that there are many types of plants. 		
	Know some plant parts.		
	Know that trees are plants.		
	Know that there are plants which we can eat.		
National Curriculum	Key Knowledge and Vocabulary		
Objectives			
• Identify and name a variety	 Know the difference between fruit and vegetables. 	f	
of common wild and garder		veg	
plants, including deciduous		seed	
and evergreen trees.	 Know that the flowering part of a plant produces the seeds. 	p	
Identify and describe the	• Know the life cycle of some common plants e.g. broad bean, sunflower, strawberries, daffodil.	r	
basic structure of a variety	 Know that plants grow from seeds or bulbs. 	S	
of common flowering	• Know how a plant is structured .	le	
plants, including trees.	• Know and be able to label the roots, stalk/stem, leaves, flowers, seeds and fruits. Know what the	flo	
• Observe and describe how	purpose of the different parts of a plant are.	flov	
seeds and bulbs grow into	 Know what plants need to grow healthily. 	life	
mature plants.	• Know the names of and be able to identify some common plants and trees found in our locality e.g.	S	
• Find out and describe how	sycamore, oak, beech, horse chestnut, strawberries, crocuses, snowdrops, bluebells, daffodils,	a	
plants need water, light and	dandelions, daisies etc.	healthy	
a suitable temperature to	 Know how the seasons affect the trees and plants in our locality. 	nearing	
grow and stay healthy.	 Know and use the terms deciduous and evergreen. 	gr	
 Observe changes across the four concerns. 	 Know what happens to the plants and trees in our locality through the four seasons. 	ہو con	
four seasons.	 Know the names of the four seasons- Autumn, Winter, Spring and Summer. 	dec	
Observe and describe weather associated with th		eve	
weather associated with the			
seasons and how day lengtl varies.			
valics.			

drawing on their experiences and

nd changing states of matter

fruit egetables ed bearing plant roots stalks leaves flowers lowering ife cycle seeds bulbs stem thy/healthily grow growth onditions eciduous vergreen

four seasons Spring Summer Autumn Winter



Science

Topic: Wind in the Willows	Prior Knowledge/Links:
	ELG - Understanding the World – The Natural World
Subject: Science- Living Things and Their Habitats	 Explore the natural world around them, making observations and drawing pictures of animals Know some similarities and differences between the natural world around them and contrasting er and what has been read in class Understand some important processes and changes in the natural world around them, including th
	 Children should already know: Know how to handle, care and respect minibeasts.
	 Know what minibeasts look like.
	 Know what minibeasts look like. Know some common minibeasts e.g. spider, ant, worm, slug, snail, beetle, bee, woodlouse. Know where minibeasts can be found. Know how minibeasts move e.g. crawl, slither, fly, walk etc.
National Curriculum Objectives	Key Knowledge and Vocabulary
 Explore and compare the differences between things that are living, dead, and things that have never been alive. Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. Identify and name a variety of plants and animals in their habitats, including microhabitats. Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. 	 Know the differences between things that are living, dead, and things that have never been alive. Know that all living things move, reproduce, sense, eat food, excrete, grow/change and breathe. Know that most living things live in habitats to which they are suited. Know how different habitats provide for the basic needs of different kinds of animals and plants, and l depend on each other. Know the names of a variety of plants and animals and their habitats, including micro-habitats. Know how animals obtain their food from plants and other animals, using the idea of a simple food ch Know and use the terms prey and predator. Know that different kinds of plants and animals live in different kinds of places. Know that there are different kinds of habitat near school which need to be cared for. Know that habitats provide the preferred conditions for the animals/plants that live there. Know what happens to living things in their habitats during different seasonal changes.

environments, drawing on their experiences

the seasons and changing states of matter

how they

chain.

differences similarities living alive dead move reproduce sense eat food excrete grow change breathe depend food chain habitat prey/predator food source



Science

Topic: Buckets and Spades-Uses of	Prior Knowledge/Links:			
Everyday Materials	ELG - Understanding the World – The Natural World			
	 Explore the natural world around them, making observations and drawing pictures of animals 			
Subject: Science- Materials	 Know some similarities and differences between the natural world around them and contrasting enderse 	environments, drawing	, 01	
	experiences and what has been read in class	experiences and what has been read in class		
	 Understand some important processes and changes in the natural world around them, including t 	the seasons and changi	ng	
	Children should already know:			
	 Know some simple vocabulary to describe materials e.g. shiny, dull, fluffy, soft, hard, rough, bump 	py, slimy, dry, wet, ben	dy	
	 Know that materials are used for different purposes. 			
	 Know the similarities and differences between some materials. 			
National Curriculum Objectives	Key Knowledge and Vocabulary			
• Distinguish between an object and the	Know the difference between the name of an object and the material from which it is made.	object		
material from which it is made.	• Know and be able to name a variety of everyday materials, including wood, plastic, glass, metal,	material		
 Identify and name a variety of everyday 		everyday materials		
materials, including wood, plastic, glass	• Know the simple physical properties of a variety of everyday materials. E.g. soft, hard, rough,	wood		
metal, water, and rock.	smooth, flexible, stiff, transparent and opaque.	plastic		
 Describe the simple physical properties of a variety of everyday materials. 	• Know what are appropriate materials for different purposes? E.g. waterproof materials are needed	glass		
 Compare and group together a variety 	for rain jackets, wellies or umbrellas. Absorbent materials are needed for towels.	metal		
of everyday materials on the basis of	• Know the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick,	water		
their simple physical properties.	water, rock, paper and cardboard for particular uses.	rock		
• Identify and compare the suitability of	• Know how the shapes of solid objects made from some materials can be changed by squashing,	brick		
variety of everyday materials, including	bending, twisting and stretching (applying a force).			
wood, metal, plastic, glass, brick, rock,	 Know that some materials can be found naturally whilst others have to be made. 	paper cardboard		
paper and cardboard for particular use				
• Find out how the shapes of solid object	LS	naturally		
made from some materials can be		man-made		
changed by squashing, bending, twistin				
and stretching.				

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physical properties soft hard rough smooth flexible stiff transparent opaque purposes waterproof absorbent suitability squashing bending twisting stretching