

Cam Hopton Knowledge Science Progression Document

Unit	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals including humans (Biology)	Draw pictures of the human body and name some of the different body parts.	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals	Notice that animals, including humans, have offspring which grow into adults	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	Describe the simple functions of the basic parts of the digestive system in humans	Describe the changes as humans develop to old age	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
	Wash and dry hands regularly and say why this is important.	Identify and name a variety of common animals that are carnivores, herbivores and omnivores	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)		Identify the different types of teeth in humans and their simple functions		Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
	Match animals to the foods they eat.	Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)	Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	Identify that humans and some other animals have skeletons and muscles for support, protection and movement	Construct and interpret a variety of food chains, identifying producers, predators and prey		Describe the ways in which nutrients and water are transported within animals, including humans
	Describe some ways that plants or animals should be cared for in order for them to survive.	Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense					
Living things and their habitats (Biology)	With support, observe, record and talk about living things.		Explore and compare the differences between things that are living, dead, and things		Recognise that living things can be grouped in a variety of ways	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird	Describe how living things are classified into broad groups according to common

	Match animals to their young. Identify common features for different groups of animals, including wild and domestic animals. Observe and describe living things and their habitats within the local environment. Explore the natural world around them and give simple descriptions, following observation, of changes.		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		Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment Recognise that environments can change and that this can sometimes pose dangers to living things	Describe the life process of reproduction in some plants and animals	observable characteristics and based on similarities and differences, including micro-organisms, plants and animals Give reasons for classifying plants and animals based on specific characteristics
Plants (Biology)	Begin to name and group plants and trees according to their observable features.	Identify and name a variety of common and wild and garden plants, including deciduous and evergreen trees	Observe and describe how seeds and bulbs into mature plants	Identify and describe the functions of different parts of flowering plants:			

	Names and describe basic features of plants and trees.	Identify and describe the basic structure of a variety of common flowering plants, including trees	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	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			
Seasonal changes (Physics)	Notice and begin to describe patterns of weather in summer and winter. Notice and talk about the differences in day	Observe changes across the 4 seasons Observe and describe weather associated with the seasons and how day length varies					

	length between the seasons.						
Evolution and inheritance (Biology)							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
Materials (Chemistry)	Name and sort everyday items into groups of the same material. With support, observe, record	Distinguish between an object and the material from which it is made Identify and name a variety of everyday	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic,			Compare and group together everyday materials on the basis of their properties, including their hardness,	

	and talk about materials.	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	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			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	
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						Demonstrate that dissolving, mixing and changes of state are reversible changes Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda	
Rocks (Chemistry)				Compare and 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			
States of matter (Chemistry)					Compare and group materials together, according to whether they are solids, liquids or gases Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature		
Light (Physics)	Make a shadow bigger or smaller using toys, play equipment and a light source.			Recognise that they need light in order to see things and that dark is the absence of light			Recognise that light appears to travel in straight lines Use the idea that light travels in

				Notice that light is reflected from surfaces Recognise that light from the sun can be dangerous and that there are ways to protect their eyes Recognise that shadows are formed when the light from a light source is blocked by an opaque object Find patterns in the way that the size of shadows change			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
Forces (Physics)	Describe, predict and sort things that float and sink and talk about the forces they can feel. Sort magnetic and non-magnetic items through play and exploration.			Compare how things move on different surfaces Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance Observe how magnets attract or		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	

				repel each other and attract some materials and not others Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials Describe magnets as having 2 poles Predict whether 2 magnets will attract or repel each other, depending on which poles are facing		act between moving surfaces Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect	
Electricity (Physics)					Identify common appliances that run on electricity Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers Identify whether or not a		

					lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit Recognise some common conductors and insulators, and associate metals with being good conductor		
Sound (Physics)					Identify how sounds are made, associating some of them with something vibrating Recognise that vibrations from sounds travel		

					through a medium to the ear Find patterns between the pitch of a sound and features of the object that produced it Find patterns between the volume of a sound and the strength of the vibrations that produced it Recognise that sounds get fainter as the distance from the sound source increases		
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