DOSTHILL PRIMARY ACADEMY

Science

Coverage and knowledge progression

C WALKER 2019

Science coverage and knowledge progression – Years 1 to 6

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals including humans Identifying and comparing	Identify and name common animals Identify and name animals that are carnivores, herbivores, omnivores. Describe and compare the structure of common animals	Notice that animals and humans have offspring, identify and name them, describe and compare their structure	Identify, name and classify animals that are carnivores, herbivores, omnivores.	Can construct and interpret a variety of food chains, identifying producers, predators and prey	Can describe the changes as humans develop to old age.	
Nutrition/Health		Find out and describe basic needs of animals. Describe the importance for humans to exercise, eating right, hygiene.	Can 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.	(link to teeth): The right types of nutrition but how this impacts on our teeth.	(Link to changes to old age): Explore impact of lifestyle choices	Recognises the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Can describe the ways in which nutrients and water are transported within animals, including humans.
	Identify, name, draw and label parts of the human body and say		Can identify that humans and some other animals have skeletons and muscles	Can identify the different types of teeth in humans and their simple functions.		Can identify and name the main parts of the human circulatory system, and describe

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The human body	which part is associated with sense		for support, protection and movement.	Can describe the simple functions of the basic parts of the digestive system in humans.		the functions of the heart, blood vessels and blood.
Plants Identifying	Identify and name a variety of common plants, including garden plants, wild plants and trees, and those classified as deciduous and evergreen.	Identify and compare a range of plants (revisit evergreen and deciduous)				
Plant structures	Describe the basic structure of a variety of common plants including roots, stem, leaves and flowers.	Identify and examine up close the different parts of flowering plants	Can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers			
	Observe the growth of plants and vegetables they have planted	Observe and describe how seeds and bulbs grow into mature plants Find out and describe how plants need water,	Can explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they			

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Growing plants		light and a suitable temperature to grow and stay healthy	vary from plant to plant.			
Water transportation			Can investigate the way in which water is transported within plants.			
Living things Classifying/Life cycles		Explore and compare the differences between things that are living, dead and things that have never been alive		Recognises that living things can be grouped in a variety of ways. Can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.	Can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.	Can describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals Can give reasons for classifying plants and animals based on specific characteristics.
		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		Recognises that environments can change and that this can sometimes pose dangers to living things.		

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Habitats		plants, and how they depend on each other				
Plants/Animals/Reproduction		Identify and name a variety of plants and animals in their habitats, including micro-habitats			Can describe the life process of reproduction in some plants and animals.	
Food chains		Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name the different sources of food				
Materials Identifying	Can distinguish between an object and the material from which it is made. Can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.					
	Can describe the simple physical properties of a variety of everyday materials. Can compare and group together a variety of	Can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper		(States of matter) Can compare and group materials together, according to whether they are solids, liquids or gases.	Can compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency,	

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Properties/classifying	everyday materials on the basis of their simple physical properties.	and cardboard for particular uses.			conductivity (electrical and thermal), and response to magnets. Can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.	
		Can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.		Can 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). Can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	Knows that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Can demonstrate that dissolving, mixing and	

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Changing materials					changes of state are reversible changes. Can 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.	
Seasonal Changes	Can observe changes across the four seasons. Can observe and describe weather associated with the seasons and how day length varies.					
Rocks			Can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Can describe in simple terms how fossils are formed when things			

			that have lived are trapped within rock. Recognises that soils are made from rocks and organic matter.			
Forces (and magnets y3)			Can compare how things move on different surfaces. Understands that some forces need contact between two objects, but magnetic forces can act at a distance. Can observe how magnets attract or repel each other and attract some materials and not others. Can 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. Can describe magnets as having two poles. Can predict whether		Can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Can identify the effects of air resistance, water resistance and friction that act between moving surfaces. Recognises that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	

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			two magnets will attract or repel each other, depending on which poles are facing.			
Light			Recognises that they need light in order to see things and that dark is the absence of light. Understands that light is reflected from surfaces. Recognises that light from the sun can be dangerous and that there are ways to protect their eyes. Recognises that shadows are formed when the light from a light source is blocked by a solid object. Can find patterns in the way that the size of shadows change.			Recognises that light appears to travel in straight lines. Can 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. Can 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. Can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.
Electricity				Can identify common appliances that run on electricity.		Can associate the brightness of a lamp or the volume of a buzzer

				Can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Can 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. Recognises that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Can recognise some common conductors and insulators, and associate metals with being good conductors.		with the number and voltage of cells used in the circuit. Can compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Can use recognised symbols when representing a simple circuit in a diagram.
Sound				Can identify how sounds are made, associating some of		

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				them with something vibrating. Recognises that vibrations from sounds travel through a medium to the ear. Can find patterns between the pitch of a sound and features of the object that produced it. Can find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognises that sounds get fainter as the distance from the sound source increases.		
Earth and Space					Can describe the movement of the Earth, and other planets, relative to the Sun in the solar system.	

					Can describe the movement of the Moon relative to the Earth. Can describe the Sun, Earth and Moon as approximately spherical bodies. Can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	
Evolution and inheritance						Recognises that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognises that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Can identify how animals and plants are

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						adapted to suit their environment in different ways and that adaptation may lead to evolution.
Scientists/innovators explored		John Dunlop Charles Macintosh (Materials)			Jane Goodman (Living things)	Carl Linnaeus (Living things) Charles Darwin Mary Anning - palaeontologist (Evolution)