Dog Kennel Hill Primary School

Science Curriculum Overview 2020-2021

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	**Marvellous me/ Once upon a time…** • Daily routines/ time • What do we need to grow? • Why do we need exercise? • Oral hygiene • Skeleton – looking at X-rays/ labelling • Taking photos of friends using cameras and iPad's	**Things that go/ Celebrations** • Celebrations/ religion – Christmas • Black history month – cooking Jellof rice • Observations of environmental changes – looking at changes in weather and outdoor environment • Celebrating Diwali • Bee-bots and map making	**Supertato vs. Evil Pea** • Healthy eating- what is good for us? – focus on vegetables • Celebrations – Chinese New Year: looking at traditions, clothes, food, music, dragon parade • Using computer to complete a simple ICT game (Maths game)	**Dinosaur diggers** • Science week experiments: Erupting volcano • Mentos in coke • Slime making • Egg shell walking • Tissue colour run • Gummy bears • Pollution jars • Celebrating pancake day - Pancake making • Celebrating Easter – Easter bonnet parade • Using metal detectors	**Cracking creatures** • Caring for living things • Life cycles – tadpoles, pupa, eggs, caterpillar • Habitats • Caring for our environment – pollution • Recording videos of life cycles	**To infinity and beyond…/transition** • Planets and the solar system • Differences in environments • Celebrating Eid – religious traditions. Invite parents in to speak about celebrations/ sharing of food from different cultures • Using search engine to research facts

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Year 1	**Biology: Animals including humans** **Kent Scheme** • Ourselves • Identify, name and - label parts of the body • say which part of the body is associated with each sense - the senses(sight, taste,) • find and name common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates • find and name common animals that are carnivores, herbivores and omnivores		**Chemistry: Everyday Materials** **Kent Scheme** • 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: Plants** **Kent Scheme** • 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	
Year 2	**Biology: Living Things and Their Habitats (including micro habitats)** **Kent Scheme** • Food Chains • Simple food chains & habitat • Living • Non Living • Habitats & Microhabitats		**Chemistry: Uses of Everyday Materials** **Kent Scheme** • sorting and classifying materials Identify • compare uses of different materials	**Chemistry: Uses of Everyday Materials** **Kent Scheme** • Sorting and classifying, changing materials (twists, stretches, etc) • Compare how things move on different surfaces	**Biology: Animals Including Humans** **Kent Scheme** • Survival, health, exercise and growth • Basic needs of animals & offspring	**Biology: Plants** **Kent Scheme** • Requirements for Growth (set up a comparative test) • Growing plants (water, light, warmth)
Year 3	**Chemistry: Plants** **Kent Scheme** • Identify and describe the functions of different parts of flowering plants: roots,	**Physics: Light** **Kent Scheme** • Recognise that they need light in order to see things and that	**Chemistry: Rocks** **Kent Scheme** • Compare and group together different kinds of rocks on the basis	**Physics: Forces and Magnets** **Kent Scheme** • Compare how things move on	**Biology: Animals including humans.** **Kent Scheme** • identify that animals, including humans, need the	**Revision of units**

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	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.	dark is the absence of light • 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.	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.	different surfaces • Notice that some forces need contact between two objects, but magnetic forces can act at a distance • Observe how magnets attract or 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 two poles • Predict whether two magnets will attract or	right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat • Identify that humans and some other animals have skeletons and muscles for support, protection and movement. • Maths link: Data handling • Writing unit link: The Egyptians and organ preservation	

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				repel each other, depending on which poles are facing.		
Year 4	**Biology: Animals including humans** **Kent Scheme** • Describe the simple functions of the basic parts of the digestive system in humans • identify the different types of teeth in humans and their simple functions • Construct and interpret a variety of food chains, identifying producers, predators and prey.	**Physics: Electricity** **Kent Scheme** • 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	**Chemistry: States of Matter** **Kent Scheme** • 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	**Physics: Sound** **Kent Scheme** • 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	**Biology: All living things** **Kent Scheme** • Recognise that living things can be grouped in a variety of ways • 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.	**Revision of units**

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		• 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 conductors	evaporation with temperature.	• Recognise that sounds get fainter as the distance from the sound source increases. • Maths link: line graphs		
Year 5	**Chemistry: Properties of Materials – uses of materials, reversible changes** **Kent Scheme** • Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets • Understand that some materials will dissolve in	**Chemistry: Materials Properties of materials/separating materials** **Kent Scheme** • Classify materials according to a variety of properties Understand mixtures & solutions Know about reversible changes;	**Biology: Animals including humans** **Kent Scheme** • Human Body, Functions of the organs, William Harvey • Describe changes as humans develop & mature • Describe the changes as humans develop from birth to old age	**Biology: All living things** **Kent Scheme** • Explain the differences in the life cycles of a mammal, an amphibian, an insect and a bird • Describe the life process of reproduction in some plants and animals.	**Physics: Earth & Space Earth and Space** **Kent Scheme** • The Solar System, Seasons, Ptolemy, Alhazan, Copernicus Understand location and interaction of Sun, Earth & Moon • Everyday materials, including metals, wood and plastic	**Physics: Forces Effect of forces on Movement** **Kent Scheme** • Introduce gravity, resistance & mechanical forces • Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object

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	liquid to form a solution, and describe how to recover a substance from a solution • Give reasons, based on evidence from comparative and fair tests, for the particular uses of	identify irreversible • 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			• Demonstrate that dissolving, mixing and changes of state are reversible changes • Explain that some changes resulting 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. • Maths link: Interpreting charts – space and statistics •	• Identify the effects of air resistance, water resistance and friction, that act between moving surfaces • Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.
Year 6	**Biology: Evolution and inheritance Kent Scheme** • Recognise that living things have changed over time and that fossils provide information about living things that	**Physics: Light Kent Scheme** • Recognise that light appears to travel in straight lines • Use the idea that light	**Physics: Electricity Kent Scheme** • Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells	**Biology: Animals including humans Kent Scheme** • Identify and name the main parts of the human circulatory	**Biology: All living things Kent Scheme** • Describe how living things are classified into broad groups according to common observable	**Revision of units**

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	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	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.	used in the circuit • 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 • Use recognised symbols when representing a simple circuit in a diagram.	system, and describe the functions of the heart, blood vessels and blood • Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function • Describe the ways in which nutrients and water are transported within animals, including humans	characteristics and based on similarities and differences, including microorganisms, plants and animals • Give reasons for classifying plants and animals based on specific characteristics. • Maths link: Interpreting charts & line graphs	