Rotherhithe Primary School Science Curriculum Map

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Understanding of the World Science Developing Experts ***See Rocket Words*** Forest School	**Our Body** Learn about your body parts: the arms, legs and chest, hands, feet, eyes, nose, ears, mouth and hair. Discover how our bodies change. Explore our similarities and how we are all unique. How human's grow and change. Focus on oral hygiene. *Linked Stories: "What happened to you" By James Catchpole* Linked to theme **Animals** Learn that animals are living things. Discover where animals live and what they need to survive. Explore where birds live. Learn about farm animals. **Science skill focus: classifying** Investigating magnets. Classify objects as magnetic or non-magnetic	**Weather and Seasons** Learn about rain, ice and water. Describe why the air moves. Explore snow and melting. Discover how rainbows are formed. Learn about the seasonal changes that happen in Spring and Summer. Learn about the seasonal changes that happen in Autumn and Winter. **Environmental Awareness** *Rocket Says Clean Up!* Through this story discuss the importance of look after our environment. What do the clean up crew do and why? **Materials** The three little pigs. Why did the house blow down? Which material is best and why? Build a new house for the three little pigs.	**Space** Explore outer space. Discover why rockets are important. **Forces** Understand what happens when you push or pull something. Explore objects that sink and float. **Machines** Explore different types of machines and mechanisms. Learn how machines make jobs easier. Discover different types of transport. **Science skill focus: predicting** Friction train. Using ramps test out different materials attached to the ramp (bubbles wrap, tinfoil) mark how far the train travels each time. Record and evaluate your findings.	**Plants** Discover that plants are living things. Learn about plants and where they come from. Explore how to look after plants. **Insects and Invertebrates** Learn about insects and invertebrates. Discover where insects and invertebrates live. Observe them in their habitats. Describe what a habitat is. **Life Cycle:** Butterfly: observe caterpillars in class From Egg to Chicks **Science Week** Selection of experiments chosen with the children	**The Senses** Learn about the senses. Explore ways to make sounds. **Science skill focus: observing** Talk about melting, freezing and changes in materials. Can we speed it up or slow it down? What would happen if? **Food** Learn about your diet and how to stay healthy. Explore different types of vegetables. Discover different types of fruit. Learn about chicken and eggs. Discover that cows produce milk. Examine different ingredients and then weigh them to make a mixture. **Enrichment Trip: Creekside Discovery Centre**	**Environmental Awareness** *Boogie Bear* Through this story begin to explore the idea of global warming and endangered animals. Discuss the affects of our actions on the environment. **Animals** Learn that animals are living things. Discover where animals live and what they need to survive. Explore where birds live. **Light and Dark** Learn about different types of light sources. Experiment with lenses and creating shadows.

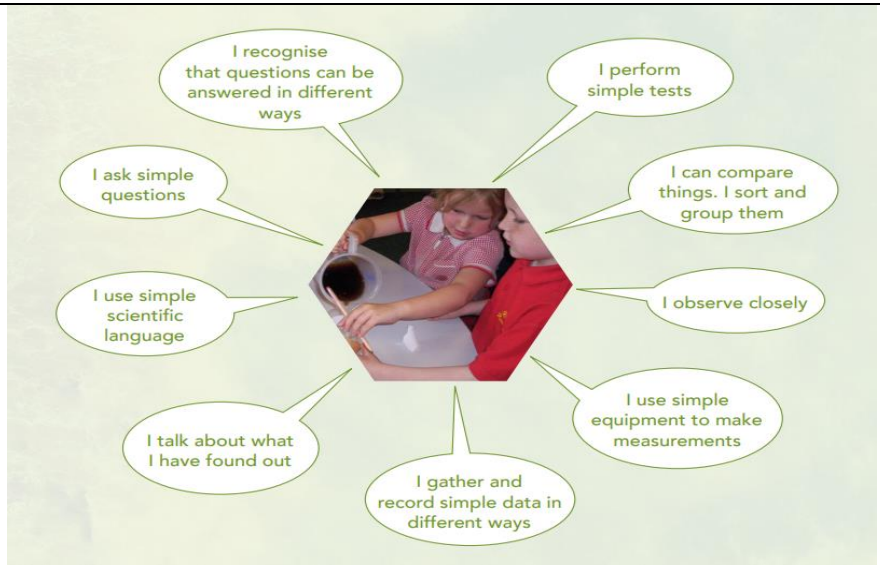
Working Scientifically EYFS

Rotherhithe Primary School Science Curriculum Map

1	**Biology: Animals including humans - animals** 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)	**Animals including humans – all about me** Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	**Chemistry: Exploring everyday Materials 1** 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	**Chemistry: Exploring everyday Materials 2** 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	**Biology: Plants** Identify and name a variety of common and wild and garden plants, including deciduous and evergreen trees Identify and describe the basic structure of a variety of common flowering plants, including trees **Enrichment Trip: Creekside Discovery Centre**	**Seasonal Changes** Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies. Working scientifically
2	**Biology: Plants** Observe and describe how seeds and bulbs turn into mature plants Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	**Biology: Living things and their habitats – habitats around the world** Explore and compare the differences between things that are living, dead, and things that have never been alive	**Chemistry: Materials** Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses	**Biology: Living things and their habitats** 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	**Biology: Animals, including humans 2 – Life Cycles** Notice that animals, including humans, have offspring which grow into adults	**Biology: Animals, including humans 1 – Growth** Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance for

		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	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	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 **Enrichment Trip: Creekside Discovery Centre**		humans of exercise, eating the right amounts of different types of food, and hygiene

Working Scientifically Key Stage One



3	**Biology: Plants** Compare the effect of different factors on plant growth Identify and describe the functions of different parts of a flowering plant and how they are used in photosynthesis Investigate the way in which water is transported within plants Explore the part that flowers play in the	**Physics: Light** Identify the difference between light sources and non light sources Explore the light that comes from the sun and how to stay safe Explore materials which are reflective Discover how shadows are formed Investigate how shadows change throughout the day	**Chemistry: Rocks** Explore the formation and properties of igneous rocks Explore the formation and properties of sedimentary and metamorphic rocks Weathering and the suitability of rocks for different purposes Explore how water contributes to the weathering of rocks	**Biology: Animals including Humans** Explore the 5 key food groups Learn about the nutrition in the food we eat Learn about the different types of skeletons Learn about the human skeleton Learn about animals and their skeletons	**Physics: Forces and Magnets** Explore contact and non-contact forces Compare how things move on different surfaces Explore different types of magnets Explore the properties of magnets and everyday objects that are magnetic	**Scientific Enquiry** How can a solar oven be made more effective: posing questions and writing predictions How can a solar oven be made more effective: recording and presenting results Cleaning coins: writing a method and carrying out a practical test Cleaning coins: writing a conclusion

	life cycle of flowering plants Understand the pollination process and the ways in which seeds are dispersed Compare the effect of different factors on plant growth **Enrichment Trip: Creekside Discovery Centre**	Investigate how you can change the size of a shadow	Understand how fossils are formed Explore different types of soil	Explore the role of muscles	Understand that magnetic forces can act at a distance Explore the everyday uses of magnets	Making a cake: fair testing, controls and variables Making a cake: scientific enquiry
4	**Biology: Living Things and their Habitats** 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	**Chemistry: States of Matter** 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	**Biology: Animals including humans** 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** 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	**Physics: Sound** 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	**Biology: Living Things and their Habitats – Conservation** Recognise that environments can change and that this can sometimes pose dangers to living things

		condensation in the water cycle and associate the rate of evaporation with temperature **Enrichment Trip: Creekside Discovery Centre**		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	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	

5	**Biology: Living things and their habitats** Understand the life process of a plant Understand the life cycles of mammals Compare the life cycles of insects and amphibians Understand the life cycle of birds and reptiles Know about the life and work of Jane Goodall and David Attenborough	**Chemistry: Properties of Materials** Exploring properties of materials Explore thermal conductors and thermal insulators Explore the hardness of materials Discover materials that become soluble in water Investigate the solubility of materials Explore how mixtures could be separated	**Chemistry: Changes of materials** Use evaporation to recover the solute from a solution Recognise and describe reversible changes Observe chemical reactions and describe how we know new materials are made Investigate rusting reactions	**Physics: Forces** Explore gravity and the life and work of Isaac Newton Examine the connection between air resistance and parachutes Explore factors which affect an object's ability to resist water Investigate the effects of friction on different surfaces	**Physics – Earth and Space** Explore the solar system and its planets Understand the heliocentric model of the solar system Explain the Earth's movement in space Explain the Earth's rotation and night and day Explain the movement of the Moon	**Biology: Animals, including humans** Identify the key stages of a mammal's life cycle Explore the gestation periods of mammals Learn about foetal development Investigate the hand span of different aged children Learn about the changes experienced during puberty

	Research and present the life cycle of a creature **Enrichment Trip: Creekside Discovery Centre**	by filtering, sieving, evaporating or magnets	Investigate burning reactions Investigate chemical reactions - acids and bicarbonate of soda	Investigate mechanisms - levers and pulleys Investigate mechanisms – gears	Design a planet using knowledge gained	Describe the changes humans may experience during adulthood and old age
6	**Biology: Living Things and their Habitats** Describe how living things are classified into broad groups according to common 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	**Physics: Electricity** Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells 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	**Physics: Light** Recognise that light appears to travel in straight lines 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 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	**Looking after our environment** Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs and bar and line graphs Reporting and presenting findings from enquiries - including conclusions, causal relationships and explanations of and a degree of trust in results - in oral and written forms such as displays and other presentations Identifying scientific evidence that has been used to	**Biology: Animals including Humans** Identify and name the main parts of the human circulatory 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	**Biology: Evolution and inheritance** 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 **Enrichment Trip: Creekside Discovery Centre**

			objects that cast them	support or refute ideas or arguments Using test results to make predictions to set up further comparative and fair tests		

Working Scientifically Upper Key Stage 2