



Rotherhithe Primary School Science Curriculum Map



Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	<p>Science skill focus: predicting Carry out the experiment: Browning Apples. What happens to the apples left out. How do they change? Why have they changed?</p> <p>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.</p>	<p>Science skill focus: doing Children carry out a scavenger hunt of various natural objects they can find in the environment. (forest school) Name and sort the objects found.</p> <p>Drainpipes Investigate drainpipes and water. Where is the water coming from? Can we change the direction? Can we collect the water. Use tubes and guttering to problem solve.</p> <p>Seasonal Changes Discuss the seasons. What types of clothes do we need? What do we notice about trees? What else is changing around us? .</p>	<p>Science skill focus: predicting Investigate things that float and sink. Make predictions and record your findings.</p> <p>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.</p> <p>Seasonal Changes Discuss the seasons. What types of clothes do we need? What do we notice about trees? What else is changing around us?</p>	<p>Science skill focus: observing Evil Pea has frozen some of our toys how can we get them out? Observing the frozen Balloons closely. Talk about melting, freezing and changes in materials. Can we speed it up or slow it down? What would happen if?</p> <p>Perform taste tests with different foods. Develop vocabulary around tastes eg. bitter, sweet.</p> <p>Science Week - Mentos experiment - Introduce chicks as part of Science week</p>	<p>Science skill focus: performing tests Materials</p> <ul style="list-style-type: none"> - making a shelter for Incy Wincy Spider - How to protect and egg when from cracking when it is dropped <p>Planting and Growing Plant a variety of seeds and vegetables in the garden area. Learn the different parts of the plants e.g. stem, flower etc. Experiment growing left over vegetables. Children plant their own Magic beans and keep a bean diary at home.</p> <p>Life Cycle: Butterfly: observe caterpillars in class</p>	<p>Science skill focus: classifying Investigating magnets. Classify objects as magnetic or non-magnetic</p> <p>Light and Dark Learn about different types of light sources. Experiment with lenses and creating shadows.</p> <p>Human Growth How human's grow and change. Focus on oral hygiene.</p>

Working Scientifically EYFS



<p>1</p>	<p>Seasonal Changes – Autumn and Winter -Observe changes across the four seasons -Observe and describe weather associated with the seasons and how day length varies. Working scientifically</p>	<p>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</p>	<p>Seasonal Changes – Spring -Observe changes across the four seasons -Observe and describe weather associated with the seasons and how day length varies. Working scientifically</p>	<p>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</p>	<p>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</p>	<p>Seasonal Changes – Summer -Observe changes across the four seasons -Observe and describe weather associated with the seasons and how day length varies. Working scientifically</p>
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2	Biology: Animals Including Humans Kent Scheme -Survival, health, exercise and growth -Basic needs of animals & offspring	Biology: All living things Kent Scheme -Differentiate living, dead and non-living	Biology: Living Things and Their Habitats (including micro habitats) Kent Scheme -Food Chains -Simple food chains & habitat	Chemistry: Uses of Everyday Materials Kent Scheme -Sorting and classifying, changing materials (twists, stretches, etc) -Compare how things move on different surfaces	Chemistry: Uses of Everyday Materials Kent Scheme -Sorting and classifying, changing materials (twists, stretches, etc) -Compare how things move on different surfaces	Biology: Plants Kent Scheme -Requirements for Growth (set up a comparative test) - Growing plants (water, light, warmth)

Working Scientifically Key Stage One



3/4	Chemistry: States of Matter Kent Scheme -compare and	Biology: All living things Kent Scheme	Biology: Animals including humans Kent Scheme Describe the simple	Physics: Electricity Kent Scheme Identify common	Physics: Sound Kent Scheme - identify how	Physics: Light Kent Scheme recognise that they
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	<p>group materials together, according to whether they are solids, liquids or gases</p> <ul style="list-style-type: none">- 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.	<ul style="list-style-type: none">-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.	<p>functions of the basic parts of the digestive system in humans</p> <ul style="list-style-type: none">- 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-identify that animal, 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	<p>appliances that run on electricity</p> <ul style="list-style-type: none">- 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 conductors.	<p>sounds are made, associating some of them with something vibrating</p> <ul style="list-style-type: none">- 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.	<p>need light in order to see things and that dark is the absence of light</p> <ul style="list-style-type: none">- 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.
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Working Scientifically lower Key Stage 2



<p>5</p>	<p>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.</p>	<p>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</p>	<p>Chemistry: Materials Properties of materials/separating materials Kent Scheme -Classify materials according to a variety of properties Understand mixtures & solutions Know about reversible changes; identify irreversible -Use knowledge of solids, liquids and gases to decide how mixtures might be</p>	<p>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</p>	<p>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 - Identify the effects of air resistance, water resistance and friction,</p>	<p>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 -Demonstrate that dissolving, mixing and changes of state are reversible changes</p>
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			<p>separated, including through filtering, sieving and evaporating</p> <ul style="list-style-type: none"> -Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic 	<ul style="list-style-type: none"> -Understand that some materials will dissolve in 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 	<p>that act between moving surfaces</p> <ul style="list-style-type: none"> - Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs. 	<ul style="list-style-type: none"> - 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
6	<p>Physics: Light Kent Scheme</p> <p>Recognise that light appears to travel in straight lines</p> <ul style="list-style-type: none"> -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 objects that cast them. 	<p>Physics: Electricity Kent Scheme</p> <p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</p> <ul style="list-style-type: none"> - 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 	<p>Biology: All living things Kent Scheme</p> <ul style="list-style-type: none"> -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 -give reasons for classifying plants and animals based on specific characteristics 	<p>Biology: Animals including humans Kent Scheme -</p> <ul style="list-style-type: none"> -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 	<p>Biology: Evolution and inheritance Kent Scheme</p> <ul style="list-style-type: none"> -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 	<p>Teaching top up lessons to cover gaps in science learning</p>

Working Scientifically Upper Key Stage 2

