

Scholar Green Primary School
Science (Chemistry) Progression Model

	Knowledge	Skills (Working Scientifically)	Vocabulary
Materials (Including Changing State)			
Year 1	<ul style="list-style-type: none"> Distinguish between an object and the material from which it is made Know and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock Know the simple physical properties of a variety of everyday materials 	<ul style="list-style-type: none"> Compare and group together a variety of everyday materials on the basis of their simple physical properties. Describe the simple physical properties of a variety of everyday materials Ask questions about every day materials Perform a simple test to identify the best material for a particular function (e.g. best material for an umbrella or lining a dog's basket) Use ideas and observations to suggest answers to the above the question Gather and record data to help answer the above question 	Material Object Made Wood Plastic Glass Metal Water Rock Properties Hard Soft Shiny Dull Rough Smooth Bendy / not bendy Waterproof / not waterproof Absorbent / not absorbent Opaque Transparent Brick Paper Fabric Elastic Foil
Year 2	<ul style="list-style-type: none"> To know the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses 	<ul style="list-style-type: none"> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses 	Solid objects Squashing Bending Twisting Stretching

	<ul style="list-style-type: none"> To know how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching 	<ul style="list-style-type: none"> Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching Compare the uses of every day materials in and around school with materials found in other places (e.g. home / the park) Obverse, and record these observations about how materials are used Identifying and classifying the uses of different materials 	
Year 4	<ul style="list-style-type: none"> To know how to identify if a material is a solid, liquid or gas To know that some materials change state when they are heated or cooled To know 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"> 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) Classify and group a variety of different materials Setting up simple practical enquires to compare the melting temperature of different substances Record findings about the melting temperature of different substances using scientific language Report the findings from the above enquiry Use the results to draw simple conclusions and make predications Identify the similarities and differences in the melting point of different materials Observe and record evaporation over a period of time, for example, a puddle in the playground or washing on a line 	Solid Liquid Gas State Particles Heated Cooled Evaporate Degrees Celsius
Year 5	<ul style="list-style-type: none"> To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution To 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 To know that dissolving, mixing and changes of state are reversible changes 	<ul style="list-style-type: none"> Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets 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. Planning different types of scientific enquiry to answer questions (for example 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?') 	Hardness Solubility Transparency Conductivity (electrical and thermal) Magnet Magnetic Dissolve Solution Solvent Solute Mixture Separation Filtering

	<ul style="list-style-type: none"> To know 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. 	<ul style="list-style-type: none"> Observe and compare what happens during reversible and irreversible changes Take measurements using a range of scientific equipment with increasing accuracy (e.g. temperature) when carrying out fair tests Use test results, from the fair test to make predictions to set up further comparative fair tests Report and present findings from enquiries, including conclusions, causal relationships and explanations and of degree of trust in results 	Sieving Evaporation Conclusion Measure
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	Knowledge	Skills (Working Scientifically)	Vocabulary
Rocks			
Year 3	<ul style="list-style-type: none"> To Know that different kinds of rocks are grouped together 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 To know and recognise that soils are made from rocks and organic matter. 	<ul style="list-style-type: none"> Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties Observe different types of rocks in and around the local area and the purpose for which they have been used Ask questions about why rocks might have changed over time Classify and group rocks according to whether they have grains or crystals, and whether they have fossils in them (by using hand lenses or microscopes) Ask and answer questions about why soils are formed 	Rock Soil Grains Crystals Fossils Lenses Microscope Sedimentary Igneous Metamorphic Volcanic