

Progression of Knowledge – Chemistry

Materials / States of Matter			
Year 1	Year 2	Year 4	Year 5
<ul style="list-style-type: none"> -I can tell the difference between an object and the materials it's made from -I can identify and name common materials: plastic, wood, metal, water, glass, paper, fabric, brick and stone -I can state some objects that might be made of a common material -I can describe if an object is shiny or dull -I can describe if an object is hard or soft -I can describe if an object is stretchy, bendy or stiff -I can describe if an object is smooth or rough -I can explain what waterproof and absorbent means -I can describe if an object is waterproof or absorbent -I can compare and group together common materials based on their properties 	<ul style="list-style-type: none"> -I can explain the difference between a solid and liquid -I can explain the difference between something that is transparent or opaque -I can identify common materials: wood, glass, plastic, metal, paper, cardboard, fabric and rubber -I can describe the properties of common materials using a range of year 2 language -I can find out how some solids shapes can be changed by squashing, bending, twisting and stretching -I can explain who John McAdam was 	<ul style="list-style-type: none"> -I can define a solid, liquid and gas -I can describe the structure of the particles in a solid, liquid and gas -I can compare and group materials based on whether they are a solid, liquid or gas -I can observe that some materials change state when heated or cooled (ice, water, water vapour) -I can measure/research the temperature at which a material changes state, when heated or cooled, in degrees Celsius -I can explain what evaporation and condensation are -I can associate the rate of evaporation with temperature -I can identify the roles that evaporation and condensation play in the water cycle 	<ul style="list-style-type: none"> -I can compare and group materials based on their properties (including hardness, solubility, transparency, conductivity (electric and thermal) and response to magnets) -I can define a solution -I can identify some materials that dissolve in a liquid to make a solution -I can use the terms soluble and insoluble correctly -I can describe how to recover a dissolved substance from a solution using the term evaporation -I can explain that dissolving and melting are different processes -I can describe how to separate mixtures using sieving, filtering and evaporating -I can demonstrate that dissolving, mixing and changes of state (freezing water/boiling water) are reversible changes -I can explain that irreversible changes result in the formation of new materials and cannot be reversed -I can associate burning and the action of an acid on bi-carbonate of soda with irreversible changes
<i>Vocabulary</i>			
Object, material, hard, soft, stretchy, shiny, dull, smooth, rough, bendy, stiff, waterproof, absorbent, plastic, wood, metal, water, glass, paper, brick, fabric, stone	Suitability, properties, solid, liquid, transparent, opaque, flexible, John McAdam, squash, bend, stretch, twist	States of matter, gas, water vapour, particles, boiling, melting, freezing, evaporate, condense, precipitation, water cycle	Solubility, conductivity, reversible change, irreversible change, dissolving, solution, mixture, soluble, insoluble, conductor, insulator, filtering, sieving

Rocks

<i>Year 3</i>

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| <ul style="list-style-type: none">-I can explain how igneous rock, metamorphic rock and sedimentary rock is formed-I can compare and group rocks based on their physical appearance and properties-I can explain in simple terms how fossils are formed-I can explain what palaeontology is-I can explain what soil is made up of (organic matter, water, air and minerals) |
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<i>Vocabulary</i>

Fossilisation, fossils, palaeontology, erosion, sediment, minerals, organic matter, layers, sediment, igneous, sedimentary, metamorphic
