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| **Science Curriculum Coverage and Progression – Materials** |
| **NC**  | **Nursery**  | **Reception** | **Year 1**  | **Year 2**  | **Year 3**  | **Year 4**  | **Year 5**  | **Year 6**  |
| **Materials** | Use all their senses in hands-on exploration of natural materialsExplore collections of materials with similar and/or different propertiesTalk about what they see using a wide vocabulary.   | Learn new vocabulary.Ask questions to find out more and to check what has been said to them.Articulate their ideas and thoughts in well-formed sentences.Describe events in some detail.Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.Use new vocabulary in different contexts.  | Everyday Materials•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. | Use of Everyday 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;•find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. | * Rocks

compare and group together different kinds of rocks 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;recognise that soils are made from rocks and organic matter. | 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 condensation in the water cycle and associate the rate of evaporation with temperature.
 | Properties and Changes of Materials* 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;
* know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution;
* 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 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.
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| **Vocabulary Progression** | material wood glass paper hard soft | material metal wood rock plastic hard glass soft paper fabric material smooth shiny rough | * Names of **materials**: wood, plastic, glass, metal, water, rock, paper, cardboard, rubber, fabric.
* Properties of materials: **hard, soft, shiny, dull, stretchy**, **rough**, **smooth, bendy, not bendy, transparent, opaque, waterproof, not waterproof**, **absorbent, not absorbent,** sharp, stiff.
* Other: **object.**
 | * Changing shape: squash, bend, twist, stretch.
* **Properties** of **materials:** e.g.strong, flexible, light, hard-wearing, elastic.
* Other: **suitability**, recycle, pollution.
 | * Types of rock**: sedimentary rock, igneous rock, metamorphic rock.**
* **Properties of rocks: permeable,** semi-permeable, **impermeable,** durable.
* Names of rocks: e.g. marble, chalk, granite, sandstone, slate.
* Formation of rocks and fossils: natural, human-made, **magma, lava,** molten rock, **sediment, erosion, fossilisation,** layers, bone, fossil.
* Soil: sandy, chalky, clay, peaty, loamy, topsoil, subsoil, bedrock, mineral, organic matter, compost.
* Other: **palaeontology.**

Previously introduced vocabulary: soil, **water**, air. | * **States of matter: solids, liquids, gases,** particles.
* State change: **evaporate,** **condense,** **melt, freeze**, heat, cool, melting point, freezing point, boiling point, **water vapour**.
* Water cycle: **precipitation**, evaporation, condensation, ground run-off, collection, underground water, bodies of water (sea, river, stream), water droplets, hail.
* Other: atmosphere.

Previously introduced vocabulary: temperature, rain, cloud, snow, wind, sun, hot, cold, absorb, carbon dioxide | * Properties of **materials**: thermal **conductor/insulator,** magnetism, electrical resistance, **transparency**.
* Mixtures and solutions: dissolving, substance, soluble, insoluble.
* Changes of materials: reversible change, physical change, irreversible change, chemical change, burning, new material, product.
* Separating: sieving, filtering, magnetic attraction.

Previously introduced vocabulary: electrical **conductor/insulator,** bulb, **translucent**. |  |