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| SCIENCE SKILLS REC to Y6SUBSTANCES, MATTER AND MATERIALS |
|  | EYFS Skills | Key Stage 1 Skills | Lower Key Stage 2 Skills | Upper Key Stage 2 Skills |
|  | End of RECExpectations | End of Year 1Expectations | End of Year 2 Expectations | End of Year 3 Expectations | End of Year 4 Expectations | End of Year 5 Expectations | End of Year 6 Expectations |
| ASPECT | Average age 5 years 6 months | Average age 6yrs 6months | Average age 7years 6 months | Average age8years 6 months | Average age 9 years 6 months | Average age 10 years 6 months | Average age 11 years 6 months |
| Identifying and naming |  | Name a range of everyday materials, including wood, plastic, metal, rock and glass. | Identify the uses of everyday materials in a familiar location (e.g. school or home), recording their findings. | Identify and name a range of rocks and soils, describing how fossils are formed (link to evolution). | Identify how water changes state, using the correct terminology and relate these key processes to the water cycle. | Identify a wide range of reversible and irreversible changes that are in use in everyday life. |  |
| Classification |  | Group and sort materials according to their simple physical properties.Identify the material an objects is made from, suggesting why it is made from that material. | Sort and grade a range of materials for a specific property (e.g. smoothness).Identify and describe the range of materials that can be used to make a singe given object (e.g. .cup, chair, table or shelter). | Classify and group rocks according to their appearance of physical properties, using a hand lens or digital microscope and identifying whether they are granular, crystalline or fossilised.Suggest reasons why certain rocks or stones are used for specific purpose. | Classify everyday materials as a solid, liquid or gas at room temperature.Describe a material whose use changes as its state changes. | Classify and group mixtures for how they can be separated, including sieving, filtering and evaporating.Provide evidence and reasons why a material has been chosen for a specific use. Scientifically and systematically compare the functionality of a range of material to perform a specific function. |  |
| Physical processes  |  | Identify the material an object is made from, suggesting why it is made from that material. | Describe how the shape of some materials can be changed by twisting, bending, squashing or stretching. | Explain the terms ‘weathering’ and ‘erosion’ and describe the effect they have on different types of rocks and soils. | Explain the effect of heating and cooling on a range of substances, including water. | Describe what happens when a solute dissolves in a solvent to form a solution and how this process can be reversed. |  |
| Physical properties |  | Describe properties of a material using everyday language or simple scientific vocabulary (e.g. hard/soft or bendy/not bendy). | Relate a material’s physical properties to its uses (e.g. describe or demonstrate how a material can be unsuitable for a given task due it its ability to be changed by squashing and bending). | Investigate the physical properties of one or a number of rock types and relate their properties to their appearance. | Describe the properties of solids, liquids and gases, giving examples of each (e.g. solids retain their shape). | Describe comprehensively some familiar and unfamiliar material’s physical properties, including transparency, conductivity, solubility and magnetism. |  |
| Comparisons |  | Compare two or more different materials for their performance at a particular task (e.g. mopping up a spill). | Compare significant individuals who have developed useful materials (e.g. Charles Macintosh or John Dunlop) and decide which individual’s material is of most use to them. | Compare in detail a range of rock or soil samples from the locality, using simple tables and diagrams to present their findings. | Measure or research the temperature, in degrees Celsius (“C), at which materials change state and compare to the temperatures at which water changes state. | Compare reversible with irreversible change, using flow diagrams/equations to show which materials are added, what is made and indicating if the reaction can be reversed. |  |