Science (strand: substances, matter and materials) Essential Skills and Knowledge and EYFS to Y6

Charnock Hall Primary Academy
A.L.E.A.D. Academy

Aspect	EYFS	KS1		Lower KS2		Upper KS2	
	Reception	Y1	Y2	Y3	Y4	Y5	Y6
Identifying and naming	I can name a range of everyday materials	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 feelings.	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	I can sort materials due to their properties e.g. hard, soft	Group sort materials according to their simple physical properties. Sort materials between natural and physical	Sort and grade a range of materials for a specific property (e.g. smoothness)	Classify and group rocks according to their appearance or physical properties, using a hand lens or digital microscope and identifying whether they are granular, crystalline or fossilised.	Classify everyday materials as a solid, liquid or gas at room temperature.	Classify and group mixtures for how they can be separated, including sieving, filtering and evaporating.	
Uses	I make objects from different materials, including natural materials.	Identify the material an object is made from, suggesting why it is made from that material commenting on physical properties.	Identify and describe the range of materials that can be used to make a single given object (e.g. cup, chair, table or shelter).	Suggest reasons why certain rocks or stones are used for specific purpose.	Describe a material whose use changes as its state changes .	Provide evidence and reasons why a material has been chosen for a specific use. Scientifically and systematically compare the functionality of a range of materials to perform a specific function.	
Physical processes		Identify some materials that help physical processes (e.g. woollen fabrics keep us warm).	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. Know how soil is made.	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	I can comment if a material is hard soft, bendy or strong	Describe properties of a material using everyday language or simple scientific vocabulary I can test if a material is waterproof	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 to 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	I can compare two materials	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 temperature at which water changes state.	Compare reversible change, using flow diagrams/ equations to show which materials are added, what is made and indicating if the reaction can be reversed.	