YEAR 5

	EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
PROPERTIES AND CHANGES OF MATERIALS **CHEMISTRY/ PHYSICS**	**The three Prime ELGs of Communication & Language, PSED and Physical Development provide the foundations of which all other learning is built upon.** **Specific:** **The Natural World ELG** Explore the natural world around them, making observations and drawing pictures of animals and plants. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. Understand some important processes and changes in the natural world around them, including the seasons and	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.	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.	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.	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.	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	

	changing states of matter							

PROPERTIES AND CHANGES OF MATERIALS

COMPOSITES

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

COMPONENTS

		1	2	3	4	5	6	7	End Point
		How are every day materials grouped?	**Can I separate mixtures and solutions?**	**What are reversible and irreversible changes?**	**What is dissolving?**	**What is evaporation?**	**Can I give examples of insulators?**	**Can I explain the uses of everyday materials?**	**Children will be able to describe the different uses of materials according to their properties.** **They will be able to describe reversible and irreversible changes.**
CONCEPTS		MATERIALS AND MATTER	MATERIALS AND MATTER	MATERIALS AND MATTER	MATERIALS AND MATTER	MATERIALS AND MATTER	MATERIALS AND MATTER	MATERIALS AND MATTER	Understand that materials are chosen for purpose because of their properties. Understand reversable and irreversible changes.
SKILLS		Compare and group together everyday materials on	Know that some materials will dissolve in	Demonstrate that dissolving, mixing and changes of	Know that some materials will dissolve in liquid to form a	Use knowledge of solids, liquids and gases to decide how	Use knowledge of solids, liquids and gases	Give reasons, based on evidence from comparative	Understand reversable in irreversible changes

		the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets	liquid to form a solution, and describe how to recover a substance from a solution	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	solution, and describe how to recover a substance from a solution Demonstrate that dissolving, mixing and changes of state are reversible changes	mixtures might be separated, including through filtering, sieving and evaporating Demonstrate that dissolving, mixing and changes of state are reversible changes	Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic	and fair tests, for the particular uses of everyday materials, including metals, wood and plastic	Describe the properties of materials
KNOWLEDGE **Science Knowledge Organiser: Properties and Changes of Materials Year 5**		Materials can be grouped in different ways according to their properties.	Some mixtures and solutions can be separated.	Some changes are reversible and some are not.	Some materials will dissolve in a liquid.	Evaporation can be used to separate some mixtures and solutions.	Materials and change states.	Materials are used for different purposes dependent upon their properties.	Materials are used for different purposes dependent upon their properties. Some changes are reversible and some are not.
LESSON LINK		MTP Term 1 and 2	MTP Term 1 and 2	MTP Term 1 and 2	MTP Term 1 and 2	MTP Term 1 and 2	MTP Term 1 and 2	MTP Term 1 and 2	
PROGRESSIVE VOCABULARY		compare group material property	dissolve liquid solution	change of state reversible irreversible dissolve	change of state reversible irreversible dissolve liquid solution	solid liquid gas mixture separate dissolve evaporation	solid liquid gas material purpose property	material purpose property	Articulate and recognise subject specific vocabulary.
CURRICULUM EXPERIENCES		Testing and sorting materials	Trying to separate solutions	Exploring irreversible changes			Insulating n ice balloon		Apply knowledge of reversible and irreversible changes to

									different situations.
END POINT		Children will be able to classify materials in different ways according to the properties of the materials.	Children will be able to separate solutions and mixtures.	Children will recognise reversible and irreversible changes.	Children will be able to describe what dissolving is.	Children will be able to describe what evaporation is.	Children will test how best to stop an ice balloon from melting.	Children will explain why a material is suited to a purpose.	