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|  | **YEAR 5 PROPERTIES AND CHANGES OF MATERIALS KNOWLEDGE ORGANISER** | | |  |
| **KEY VOCABULARY AND SPELLINGS**  **Soluble**  – able to be dissolved, especially in water  **Insoluble** – cannot be dissolved, especially in water    **Dissolve** – when something solid mixes    with a liquid and becomes part of the liquid  **Solution** – is made when one substance dissolves into another  **Reversible change** – can be reversed back to its original state  **Irreversible chang****e** – cannot be reversed back to its original state    **Transparent** – allows light to pass through  **Thermal conductor** - a material or device which allows heat to carry through  **Electrical conductor** – a material or device with allows electricity to carry through  **Magnetic** – capable of being magnetised or attracted by a magnet | | **COMPARING AND GROUPING** - Materials can be compared and grouped together on the basis of their properties including:   * **Hardness** – how hard or soft a material is * **Solubility** – whether a material can dissolve * **Transparency** – whether it allows light to pass through * **Conductivity** (electrical or thermal) – whether it allows heat or electricity to carry through * **Response to magnets** – whether it is magnetic | **PARTICLE ARRANGEMENT**  **Solid** – particles packed closely together  **Liquid** – particles have some space to move  **Gas** – particles are free to move | |
| **REVERSIBLE AND IRREVERSIBLE CHANGES**   |  |  | | --- | --- | | **REVERSIBLE** | **IRREVERSIBLE** | | Dissolving sugar in water | Toasting bread | | Freezing water | Cooking a cake | | Melting chocolate | A candle melting | | |
| **DISSOLVING** - Sometimes when a solid (solute) is mixed with a liquid (solvent) it will dissolve to form a solution e.g. dissolving sugar in hot tea.    The solid seems to disappear in the solution but it is still there it has just become part of the liquid.    A soluble material can dissolve however an insoluble material cannot dissolve. | | |
| **SEPARATING MIXTURES**  **SIEVING** – a mixture of different sized solid particles can be separated with a sieve.    **FILTERING** – an insoluble solid can be separated from a liquid when passed through a filter. The liquid passes through the solid particles are trapped on the filter.    **EVAPORATING** – if a solution is boiled (heated) the water will evaporate into gas and the solid will be left behind. | | |